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THE

LARYNGOSCOPE.

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ORIGINAL COMMUNICATIONS.

A NEW OPERATION FOR THE CORRECTION OF DEFLECTIONS OF THE NASAL SEPTUM.*

BY E. B. GLEASON, M.D., PHILADELPHIA.

Clinical Professor of Otology in the Medico-Chirurgical College; Physician in Charge of the Nose, Throat and Ear Department of the Northern Dispensary.

Deviation of the nasal septum to one side or the other of the median line is the rule rather than the exception, so that it is unusual to find an individual whose nares are of exactly the same size. Hence deviation of the septum scarcely can be considered a pathological condition unless of sufficient degree to cause decided stenosis in the nares toward which the septum is deflected. Under such circumstances, however, the parts posterior to the obstruction become inflamed as the result of the rarification of the air in the obstructed naris during inspiration, and the consequent collection of mucus is dislodged with considerable difficulty by almost constant sniffing and hawking. Nor do the evil results end here. Not infrequently the inflammation of the obstructed nares extends backward into the pharynx and involves

*Read before the Section of Otology and Laryngology of the College of Physicians, Philadelphia, October 6, 1896.

one or both of the pharyngeal orifices of the Eustachian tubes, so that a deflected nasal septum is a not unfrequent cause of Eustachian salpingitis and consequent deafness.

Among the ancient Persians and Greeks attempts were made to overcome deflections of the septum by manipulation, and in young persons having a moderate amount of deflection of the cartilaginous septum, a certain amount of benefit undoubtedly follows the daily replacing of the deflected portion of the septum into as nearly a normal position as can be accomplished by inserting a finger into the obstructed naris. What might be considered a modification of the ancient treatment by manipulation consists in the disarticulation of the base of the triangular cartilage with the finger or Adams forceps. This method of operating is crude and unsuccessful; the usual result being that even when the dislocated septum is retained in a normal position for weeks by a pin, it sooner or later returns to its former abnormal position. The cause of failure is the redundancy of the deflected septum; and when compressed into a normal position in the median line, its resiliancy tends to spring it back into its former abnormal position.

Adams, of London, endeavored to overcome this difficulty by making stellate incisions through the most convex part of the deflection. The septum then being forced into the median line with forceps or the finger and retained in position by means of a clamp. His operation has been modified by Steel, of St. Louis, and Sajous, of Philadelphia, each of whom invented cutting forceps so constructed that the stellate incisions could be made all at one time by simply closing the instrument when in position within the nose. Sajous, instrument is so constructed that a portion of the septum is actually removed, so that the parts can be brought together without overlapping.

Probably the operation most frequently performed to remedy septal deflections is that devised by Dr. J. B. Roberts, of Philadelphia. A scalpel is introduced through the obstructed nostril, the cartilaginous septum perforated at its posterior-inferior portion, and a long incision made through the septum downward and forward as the knife is withdrawn. This incision enables the operator to push the whole anterior portion of the septum toward the unobstructed naris and retain it in position by means of one or two pins, which, if possible, are allowed to remain for ten days or two weeks. Roberts' operation frequently yields satisfactory results, but the pressure of the pins sometimes causes sloughing of the cartilage and a permanent opening through the septum, while not unfrequently the septum gradually returns to nearly the same position that it occupied before the operation.

Figures 1, 2 and 3 are diagrams representing vertical transverse sections through the anterior part of the nose. Figure 1 shows a

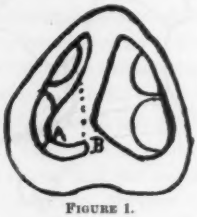

FIGURE 1.

Vertical, transverse section through the anterior portion of the nose; angular deviation of the septum, with hypertrophy of the tissues at the angle of the deviation. The dotted line indicates the direction of the saw-cut for the removal of the obstruction.

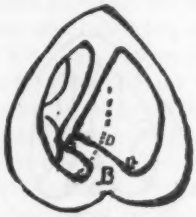

FIGURE 2.

Vertical, transverse section through the anterior part of the nose; angular deviation of the septum without hypertrophy of the tissues at the angle of the deviation. The dotted line indicates the direction of the saw-cut for forming the tongue-shaped flap covering the button hole in the septum. AB and DC, portions of the septum to be denuded.

somewhat common form of deflection. The septum is not only deviated toward the left, at a somewhat acute angle, but the apex of the angle is greatly hypertrophied. Under such circumstances, a very satisfactory result can be obtained by simply sawing off the hypertrophied angle, care being taken that the mucous membrane in the unobstructed naris is not injured by the saw. Should this simple procedure not yield sufficient breathing space, by means of a finger thrust into the obstructed naris the septum should be thrust into the median line and retained there by means of a pin, a metal or cork tube or a plug of iodoform gauze. The parts should be carefully watched and no undue pressure exerted upon the wound, or sloughing will occur and a permanent opening through the septum result. The writer has obtained some very satisfactory results from this operation; which resembles, it will be observed, that advocated by Dr. Ingals, of Chicago, inasmuch as an A-shaped piece with its base near the floor of the nose is removed from the septum.*

In Figure 2 the angular deflection is sufficient to entirely occlude the right naris, but the septum has retained its normal thickness throughout and there is no hypertrophy of the tissues at the angle of the deflection. In this form of angular deviations, in curved deviations and in some sigmoid deflections, the writer formerly performed a modified Roberts operation, but lately has done what might be called a flap and buttonhole operation. This procedure can be executed more quickly than that of Roberts, is simpler, and apparently is capable of

*Reference Handbook of the Medical Sciences, Vol. V., p. 217.

FIGURE 3.

Vertical, transverse section through the anterior portion of the nose, showing position of the septum after the tongue-shaped flap has been thrust through the button hole in the septum. After healing has occurred, the parts at B are sometimes abnormally thick; but redundant tissue can readily be removed with the saw.

FIGURE 4.

Sagital section through the nose to the right of the septum. A—convex surface of deviated area of the septum. The dark line shows position of U-shaped saw-cut through the septum about the deviated area on the convex side, and the dotted line the position of the same saw-cut on the side of the septum. In some instances the mucous membrane on the concave side of the septum apparently rides over the saw teeth and is not cut to the extent shown in the diagram.

yielding almost uniformly successful results. The technic of the operation is as follows:

After thorough cocainization, the field of operation is brought into view by means of the writer's self-retaining nasal dilator, and a Bosworth saw introduced into the obstructed naris close to and parallel with the floor of the nose. The septum is sawn transversely until the teeth of the saw have penetrated somewhat deeply into the cartilage or bone. The direction of the sawing is then somewhat rapidly changed until it becomes nearly vertical. Carefully retaining the saw in a position parallel to the intermaxillary suture, the sawing is continued until a U-shaped incision has been made through the septum, surrounding, except above, the whole deflected area of the septum. The dotted line (Figure 2) shows the position of the saw cut. From the position in which the saw was held while sawing upwards, it will be seen (Figure 4) that the U-shaped cut through the septum is larger on the convex side of the septum. The dotted line (Figure 4) represents the smaller size of the U-shape saw cut on the concave side of the septum. As the result of the sawing there is produced a buttonhole with beveled edges through the septum covered by a tongue-shaped flap. From the lower end of the flap and from the portion of the septum upon the concave side below the U-shaped incision the mucous membrane is removed with the end of the saw or a knife, and the flap is thrust through

the buttonhole in the septum with the finger tip, so that the parts assume the position shown in Figure 3. The success of the operation depends largely upon the care that is exercised to thrust the flap far enough through the septum to enable its lower edge completely to clear the lower beveled edge of the buttonhole. When this is accomplished the resilliancy of the septum holds the denuded surfaces firmly in contact and there is little or no tendency for the flap to return through the buttonhole and the septum to assume its former deviated position; in fact, the flap tends to flatten out its thin beveled edge in front, behind and below, so that the operation is applicable to nearly all forms of septal deviations, because it allows for redundancy of the septum in practically all directions.

It seemed judicious in each of the seven cases upon whom this operation has been done to guard against accident by giving the parts support at least for a few days by means of a pin, a packing of gauze, or a metal or cork tube of suitable shape. In most of these cases it was clearly not necessary. In one a metal tube was worn for only three days, after which the septum received no further support, as there was not the slightest tendency for the septum to return to its former abnormal position. In this case there is a decided protuberance similar to that shown at A, Figure 3, in what was formerly the occluded naris, but which is now somewhat the wider of the two. It is, of course, easy at a time subsequent to the operation to remove with a saw such protuberances should they exist in either parts. However, the septum which immediately after the operation, of course, appears as if a patch or graft had been inserted into it, in the course of a month assumes a flatter appearance, so that a secondary operation is not required.

After the above was in type, the attention of the writer was called to a paper by Dr. Arthur W. Watson, of Philadelphia, published in the *New York Medical Journal*, October 3, 1896, in which is described a similar operation for deviation of the septum.

Watson makes a beveled incision along the crest of horizontal deviations with a knife, cuts out any vertical deviation that may be present, and then presses over toward the wider nasal chamber, the upper portion of the septum, until its edge is hooked over the part of the septum below the cut and retained in position, thus using up any vertical redundancy of the septum. To Watson must be ascribed priority in the practical application of the idea of pushing the upper portion of the cut septum over the lower, and thus allowing, at least in a vertical direction, for the redundancy of the septum, which has been the great cause of failure in operations previously devised.

41 S. Nineteenth Street.

THE TONSILLAR CRYPTS, AS ENTRANCE PORTALS OF PATHOGENIC MICRO-ORGANISMS.

BY J. A. ELLEGOOD, M.D., WILMINGTON, DEL.

The mucous surface of each faucial tonsil presents from five to eighteen orifices, which lead down into blind pouches or pockets called crypts or lacunæ. These invaginations are lined with epithelium, which is squamous on the surface and becomes cylindrical in its deeper layers. The functions of the crypts are as little known as are those of the contiguous lymphoid tissue. Hingston Fox* holds that they act as receptacles for the excess of saliva, which he believes it is the function of the tonsils to absorb. William Hill,† however, regards them chiefly as ducts or reservoirs for phagocytes, which pass into them by diapedesis from the lymph follicles of the tonsils to act as scavengers, and to exercise a protective function by destroying many of the micro-organisms introduced into the mouth by food and air.

According to Delavan, the crypts of largest size are filled more or less with a substance composed of fat molecules, loosened pavement epithelium, lymph corpuscles, small molecular granules and cholesterin crystals. To these may be added numerous micro-organisms of various species. The mouth is exposed to direct infection of micro-organisms which may be contained in the air, food and water. Almost every organism that has been described as growing in any position has been described as growing in the mouth, which in point of temperature, moisture, nutritive material, etc., presents all the conditions best suited to their growth. Indeed, it seems the natural habitat of certain species, which are known as mouth-bacteria proper, since it has either not been possible to cultivate them on any known artificial medium (leptothrix), or, if so, not without losing some of their characteristics (pneumococci). The life processes of some of the bacteria always to be found in the mouth appear at times harmless, and at others malignant, in the sense of being inimicable to the healthy condition of the tissues. The vital phenomena of some of this class, however, as well as of numerous species whose occurrence in the

Jour. Anat. and Phys., Vol. XX., p. 559.

†*British Med. Jour.*, Sept. 1 and 15, 1888.

mouth is purely accidental are under certain circumstances distinctly pathogenic. It is certain that large numbers of leucocytes pass out between the epithelial cells into the tonsillar crypts, where they undergo disintegration, and the decomposing organic material here found affords a most congenial soil for the myriads of microbes that may gain easy access. It is well known that a considerable number of pathogenic bacteria may exist here without giving rise to disease. This is doubtless materially due to the well-known normal tissue resistance and to phagocytosis. If, however, the mucous membrane has been wounded or its power of resistance diminished or suspended by some pathological condition of a general nature, a culture soil is thus prepared in which these microbes may produce their specific effects. Infection taking place through the crypts may be local—that is, the germs are confined to the tonsils or their immediate vicinity, the chemical poison alone entering the system; and general, in which probably the germs together with their poisonous chemical products gain access to the blood system. The local infectious process may be acute or chronic, the former frequently supervening upon the latter. Acute infection usually gives rise to clinical phenomena of sufficient importance to direct attention to its occurrence. In chronic infection few, if any, of the usual features of inflammation may be present. A history of repeated attacks of acute imflammation of moderate severity may be obtained. The tonsil may not be appreciably enlarged, and the diseased crypts can often be discovered only after careful exploration. They are often found to contain cheesy particles made up largely of leptothrix elements, with which there is always associated numerous other germs. It is probable that crypts enlarged with retention of their contents, or containing these inspissated masses, are in an infected condition, which infection often gives rise to depression of the general health, gastro-intestinal trouble, and obscure reflex phenomena of great variety. The coated tongue, foul breath, bad taste and loss of appetite, generally attributed to disordered stomach, are doubtless often caused by fermentative processes in the tonsillar crypts and independently of the stomach, though the latter is unquestionably often affected by the continued swallowing of the products of putrifaction going on in the tonsil. The reflex phenomena are easily accounted for when we consider the intimate connection of the fifth nerve through the ciliary, spheno-palatine, otic and submaxillary ganglia, with other cranial nerves and with the sympathetic. Chronic amygdalitis is essentially a chronic infection of the tonsillar crypts, and often results in hypertrophy. The demand for increase of function excites enlargement of the tissue by which that function is ex-

ercised. The chronic desquamative processes and rarefaction of the epithelium of the lacunæ, described by some authors, are the results of infection. Cheesy particles are seldom found in the tonsils of children, but careful examination will reveal in many instances of hypertrophied tonsils crypts distended with gelatinous material in which microbes abound. Some of these crypts are tortuous, others ampullar, and they cause the lobulated condition of the tonsil, so often found to exist. The progressive changes that take place in all lymphoid structures from birth to adolescence, and the fact that these tissues appear so ready to take on diseased action in early life, make it often difficult to determine in an individual case whether the condition of the tonsils is the result of natural evolution, or if their development has been modified by infective processes. If we assume that in a normal throat the tonsils are visible merely as small lobules of tissue between the palatine folds, on the surface of which the orifices of the crypts are barely perceptible, a large proportion are manifest deviations from the normal condition. Disease may be limited to one tonsil or to a few crypts in that tissue. Bruschke* expresses the opinion that the tonsil without being ulcerated or inflamed may be the point of entrance for pyogenic micro-organisms. He describes several cases to show the connection between diseased tonsils and suppurative processes in the general system, and concludes that in this role they play a more important part than the respiratory and other parts of the elementary tract.

While this may be true of some micro-organisms, the experiments of Buchner† demonstrates that the blood parasites, of which anthrax, malaria and relapsing fever are the most notable examples, pass more easily through the pulmonary tissues into the circulation.

Semon‡ also found evidence that the infecting micro-organisms in septic inflammation of the pharynx gain entrance through the tonsillar crypts, and that their primary localization and subsequent development depend upon accidental breaches of the protective surface through which they found entrance.

A. Viellon§ concludes that pathogenic microbes may be found in all forms of non-diphtheritic tonsillitis. The streptococcus pyogenes was found in all the twenty-four cases examined, and appears to play the most important role. It was usually associated with pneumococci and staphylococci. He believes that the different forms are nevertheless of the same nature, the clinical and anatomical differences de-

*_Dut. Zeits. Fur. Chir._, Leipzig, 1894.
†_Munch. Med. Woch._, 1888, Nos. 15-17.
‡_Med. Chir. Trans._, Vol. LXXVIII.
§_Archives de Medicine Experimentalle et d' Anatomie Pathologique_, Paris, March, 1894.

pending upon the virulence of the organism, the resistance of the tissues, and whether the organisms affected the surface of the mucous membrane, its deeper layers or the subjacent cellular tissues.

Massei* points out what he believes to be the clinical differences between the various forms of non-diphtheritic membranous angina in which bacteriological examination is unobtainable, and assumes thereby to determine whether a given form is streptococcal, pneumococcal or staphylococcal origin. Wolfenden† has shown that there are forms of infective tonsillitis associated with the exudation of fibrin, and the presence of streptococci, staphylococci and pneumococci in such definite proportions as to suggest the inference that each specific organism was associated with characteristic clinical symptoms. He maintained that there was a lacunar tonsillitis and a lacunar diphtheria which could be differentiated only by a bacteriological investigation, since pseudomembranes, in all respects resembling diphtheria, might be produced by other organisms, and albuminuria with glandular enlargement and even paralysis might occur in non-diphtheritic cases. Sendzdiak‡ also states, that histologically the lacunar products presented the same picture as those caused by the Loeffler bacillus, but that bacteriologically they were different. Lemoine§ found the streptococcus in all of the 168 cases of non-diphtheritic angina which he examined, and concludes that anginas in general are of streptococcal origin. So many species of bacteria are found in the crypts, that it is difficult to demonstrate definitely to what extent any special one is a factor in the local pathological condition. Especially is this true on account of the impossibility to acquire a knowledge of the properties of a number of well-known species that exist in the mouth, but cannot be cultivated on any artificial medium. The clinical phenomena of tonsillitis is doubtless frequently due to mixed infection, in which certain infective microbes prepare the tissues for the reception and growth of other pathogenic germs. Diphtheria is regarded as being in most instances an example of mixed infection. That the Klebs-Loeffler bacillus is constantly present in true diphtheritic membranes is generally conceded; but besides this bacillus other forms of bacteria, viz., streptocci, have been found to be frequently if not constantly present in the membrane. It was formerly believed that the formation of the membrane depends upon the specific bacillus; the toxic symptoms, paralysis, etc., are due to the chemical poisons which they produce, and the secondary infections to the cocci which accompany the bacil-

*_Brit. Med. Jour._, June 1, 1895.
†_Jour. of Laryngology_, London, Aug., 1894.
‡_Jour. of Laryngology_, London, April and May, 1895.
§_Annals de l' Institut. Pasteur_, Vol. IX., No. 12.

lus. It has been shown, however, as previously stated, that a membranous inflammation of the crypts may occur without the presence of the bacillus. Kurchman, from post-mortem examinations of 25 tubercular cases, found that in 12 there was tuberculosis of the tonsils, and in every case in which the cervical glands were affected the tonsils were tubercular. In two cases there seemed no reason to doubt that the tonsillar lesion was primary. He estimates that the tonsils are tubercular in 60 per cent. of the cases of pulmonary tuberculosis. Dieulafoy* states that it has been established both clinically and experimentally that in many cases hypertrophy of the tonsils and adenoid vegetations are nothing but masked forms of tuberculosis, and that the infection of the lymphoid tissue constitutes the first stage. General infection, he states, does not take place in every case, owing to the activity and ultimate effectiveness of the phagocytes. He inoculated guinea pigs with fragments of tonsils or adenoid vegetations, and developed general tuberculosis in thirteen and twenty per cent. respectively. Similar experiments of Wright, Park and Botey, however, gave negative results. Cornil's† histological examinations revealed tuberculosis in a small proportion of adenoid vegetations. He considers that Dieulafoy's inocculations were subject to fallacy, owing to the fact that the bacilli may have entered through the mouth or nose and become lodged in the tonsillar crypts or in the depressions between the lobes of lymphatic tissue, local infection not having really taken place. Tubercle bacilli have been found by Strauss and others in apparently healthy noses and throats, and he has laid stress on the frequency with which the cervical glands have become infected by their gaining entrance through the tonsillar crypts. While it is not probable that infection takes place by penetration of intact epithelium, the frequency with which superficial abrasions and ulcerations occur in these parts, it is not strange that primary tuberculosis should at least occasionally develop here. Nicoll,‡ in an article on the etiology of chronic enlargements of the cervical glands of the neck, expresses the opinion that a large percentage of these cases are of tubercular origin, the tubercle bacilli gaining entrance through the lymphatic structures of the nose and pharynx.

Lenox Brown first called attention to the relationship between tonsillitis and rheumatism, and suggested the septic character of the latter. Wagner§, of San Francisco, offers evidence showing that rheumatism is due to migration of germs from the tonsillar tissue, and

Med. Weekly, 1894, p. 355.
†*Brit. Med. Jour.*, June 1, 1895.
‡*Glasgow Med. Jour.*, Jan., 1896.
§*N. Y. Med. Jour.*, No. 830, 1894.

not to the ptomaines distributed into the system by those that remained in and about the diseased tonsillar crypts. He has found the same micro-organisms in the synovial fluid of the knee-joint in two instances, and in the urine of nearly all of his cases, as existed in their diseased tonsils, while the family and clinical histories of the patients were free from taint of rheumatism before the attack of tonsillar disease. The intimate association of rheumatism and quinsy has for a long time been a subject of observation. It would be interesting to note whether there is any relationship between chorea and tonsillar disease.

J. Hughlings Jackson* has called attention to the close analogy which exists between acute tonsillitis and pneumonia.

A. Thouvenet† observed a case of nephritis which he believed to be the result of acute lacunar tonsillitis. He is convinced that many cases of nephritis, which are ascribed to cold, are in reality consequent upon attacks of inflammation of the tonsils which have been overlooked, and that sometimes the nephritis occurs after such an interval that the idea of any relation between the two morbid manifestations is lost sight of. The tonsils may be the point of entrance for the germs in syphilis, lupus, actinomycosis and other infections processes.

The tonsils are but a part of a circle of lymphoid tissue in the pharynx, and what has been said regarding the infection of their crypts applies to a certain extent to the ducts in the lymphoid structures at the base of the tongue, and to the depressions and furrows between the lobes of the pharyngeal tonsil. The depressions sometimes penetrate deeply into the mass of the tissues, and there produce manifold secondary convolutions.

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*_Med. Standard_, Chicago, May, 1894.
†_N. Y. Med. Jour._, May 5, 1894.

ACUTE INFECTIOUS PHLEGMON OF THE PHARYNX, WITH REPORT OF CASE.

BY HAMILTON STILLSON, A.M., M.D., PH.D., SEATTLE, WASH.

GENERAL OBSERVATIONS.

Fortunately acute infectious phlegmon of the pharynx is a rare disease. Bosworth recognizes but eleven cases in literature. Besides the cases reported in this paper, the writer would recognize sixty-four cases whose histories have been tabulated sufficiently for definite study.

The disease is usually a rapidly fatal one, arises often from apparently trivial causes, and usually cannot be diagnosed before dangerous symptoms set in. It is, therefore, a very formidable disease.

The most recently published cases are one by William Porter, M.D., St. Louis, in the *N. Y. Med. Jour.* of Aug. 15. 1896. This case he designated as primary erysipelas of the pharynx. Tracheotomy was resorted to, but the patient died soon after. The erysipelas extended up the right Eustachian tube. In that article the author refers to two cases reported by him in 1880 (*Archives of Laryngology*, Vol. I., No. 4). He also refers to a case of Dr. Miller, of St. Louis, in which tracheotomy was resorted to without avail, death ensuing in a few hours.

Another case is reported by R. Boyd Miller, M.D., in the September number of the *N. Y. Med. Jour.* The erysipelas extended up the left Eustachian tube, and out around the external ear. Vigorous treatment saved the patient.

The disease has passed under almost as many different names as the number of cases reported.* Parisot called his case *gangrene of the pharynx and larynx.* Carrington called his case *phlegmonous pharyngitis*, which Bosworth classified as *acute infectious phlegmon of the pharynx.* Mackenzie calls it *œdematous laryngitis*, and describes it in the chapter on "Erysipelas of the Pharynx and Larynx."† Huesinger's case‡ was described as *œdematous pharyngitis*, and its infec-

* Vid. "Ludwig's Angina," by James E. Newcomb, M.D., "Transactions American Laryngological Association, 17th Annual Congress."

† Morell Mackenzie, "Pharynx, Larynx and Trachea," 1880, p. 145.

‡ *Deutches Arch. fur Klin. Med.*, 1867, Vol. II., pp. 523-26.

tious nature was not emphasized. Metzner* gives the history of *mycotic inflammation of the tonsil*, which Bosworth thinks was infectious phlegmon. Newcomb includes in his list of cases Ludwig's angina (or, as Ludwig calls it, *gangrenous induration of the neck*), Von Thaden's *submaxillary bubo*, Dumontiel's *sublingual abscess*, Schwartz's *sublingual phlegmon*, Ausilloux's *subhyoid phlegmon*, etc., etc.†

Senator first gave it the name of *acute infectious phlegmon of the pharynx* in 1888.‡ He was very poorly informed on the literature of the subject, however, for he declared there had been but three cases recorded — two by himself, and one by Cruvelhier in 1860.§ And Bosworth rejects Cruvelhier's case as being doubtful. Many authors previous to Senator had described this disease. This observation was made by Sajou.‖ And in his work on the "Pharynx, Larynx and Trachea," Mackenzie gives a history of the disease, mentioning many authors prior to Senator, and even makes reference to Hippocrates himself.¶

SYMPTOMS.

But by whatever name we call it, the symptoms are sufficiently definite, the four most characteristic symptoms being as follows:

1st. A "wooden-like" circumscribed induration in the region of the submaxillary gland. This may be unilateral or bilateral. The induration does not pit on pressure. It is always rapid in its development. It is followed by phlegmonous œdema of the neck similar in appearance and touch to phlegmonous erysipelas anywhere else on the body.

2nd. A thrusting upward of the base of the tongue toward the palate, and a crowding downward of the epiglottis and larynx. This renders laryngoscopic examination difficult, if not impossible, but by means of tactile sense the epiglottis and tissues in its neighborhood will be found œdematous. It is, indeed, from the resulting dyspnœa that the patient usually succumbs.

3rd. A "bolster-like" swelling in the mouth between the tongue and the lower jaw, having a deep-red or bluish-red color. Authors differ as to whether this occurs in the substance of the sublingual gland, or simply in the connective tissues around the gland, the gland itself escaping. From the fact that there is always drying-up of the salivary secretions, the functions of the gland are certainly interfered with.

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* *Berlin. Klin. Woch.*, 1889, Vol. XXVI., p. 653.
† Loc. Cit. Also *N. Y. Med. Jour.*, 1895, p. 652.
‡ *Berlin. Klin. Woch.*, 1888, Vol. XXV., p. 77.
§ *Gazette des Hopitaux*, Paris, 1860, Vol. XXXII., p. 107.
‖ *Annual Universal Medical Sciences*, 1889, Vol. IV., p. E 2.
¶ Loc. Cit., 143.

4th. Ludwig states that the spread of this induration is so uniform that "it is always bordered by a zone of entirely unaffected cellular tissue."

Of course, with these prominent and characteristic symptoms there are a number of concomitant ones. Anosmia is an early symptom. There is always fever ranging from 101° to 104° F., or more. Usually there are no distinct or at least severe rigors, but there are occasional feelings of chilliness, delirium—at first muttering, then violent—gangrenous sloughing of the mucous membrane of the pharynx and fauces, typhoidal tympanitis and diarrhea, and in my case tetanus and cerebro-spinal meningitis.

ETIOLOGY.

I think it is pretty well established that the disease is erysipelatous in its nature. This Bosworth denies, from the fact that Koch, Langerhouse and Israel, at the request of Senator and Landgraf, all made thorough bacteriological investigation without finding Fehleisen's erysipelas coccus in but one case—that of Baruch. So eminent an authority as Bosworth is not to be ignored, but I cannot refrain from noting:

First, that acute infectious phlegmon of the pharynx and acute infectious phlegmon of the larynx are one and the same disease. They are so considered by Ludwig, Mackenzie, and others.

Second, that Bosworth, in his article on phlegmonous laryngitis, agrees with Budd, Virchow, and others, in considering that disease as true erysipelas of the larynx.*

Third, Dr. Felix Semon, of London, asserts that by a "simple clinical application of general bacteriological principles to a certain group of septic inflammations" we must infer that "acute œdematous pharyngitis, œdema of the pharynx, erysipelas of the pharynx, phlegmonous pharyngitis, and angina Ludovici, are all one and the same disease, differing only in the varying degrees of virulence."

Dr. Semon's view is supported by Dr. Wright, who, in the issue of the *N. Y. Med. Jour.* of Feb. 8th, adds: "Fortunately no one has wearied us as yet by finding a new bacterium." The difficulty is that our bacteriological principles are so very vague and unreliable. We would-be bacteriologists have much to learn in bacteriology yet—Koch among us. And though we may fail to find a particular coccus invariably present in this disease, we must still maintain that, clinically, we may consider the disease as essentially erysipelatous in its nature. It sometimes arises idiopathically, and, bacteriologically, we are thereby at a loss to account for it, but its clinical features remain unmistakable.

* Bosworth, Loc. Cit., p. 543.

This view is supported by Dr. A. Küttner, who, in Virchow's *Archives*, Bd. CXXXIX.,.Heft I., expresses the inability to explain why "certain micro-organisms would seem in some cases to have a direct etiological connection with certain diseases, yet these same organisms are constantly found in contact with the human organisms under healthy conditions," but that he is nevertheless satisfied that Ludwig's disease is simply another manifestation of the same disease—erysipelatous laryngitis. And Jonathan Wright, commenting on Küttner's views, says: "I believe it will sooner or later be found that all these inflammatory processes (inflammations of the throat) have a common factor, and that micro-organisms associated with them are of secondary importance."

EXCITING CAUSES.

In my case it followed vaccination, and mine is the only case of phlegmon of the pharynx attributable to that cause. In some of the cases it arose idiopathically—without known cause. In Senator's first case the patient was overheated, and upon swallowing a glass of cold beer phlegmon of the pharynx ensued, from which he died. In Landgraf's case the patient had swallowed a large bolus of food. Other trivial causes mentioned among recorded cases are "cold," "carious teeth," "dental neuralgia," and "dental avulsion," while "tonsillitis," "typhus fever" (12th day), and "erysipelas" are also mentioned as causes.

TREATMENT.

The treatment is essentially the same as for acute plegmonous erysipelas of the throat, viz., Aconite, "especially in erysipelas following vaccination;"* sustaining diet; tincture of iron, in quite large doses; early and deep scarification of the œdematous membrane; intubation; tracheotomy.

CASE.

On November 11th was called to see L. M., æt. 7 years; Norwegian; third child; pale; quiet habits; slight build. He had a sore throat. He had been vaccinated on October 30th. Vaccination typical; pit perfect; tissues around point of inoculation not swollen; axillary glands slightly tender; throat slightly swollen and "lumpy" on right side; mucous membrane red, but not angry; temperature 101° F.; had had slight delirium on previous two nights; complained of occasional sharp pains through the head; slight tympanitis; gastric pain; almost total anorexia; bowels constipated; pulse full, rapid and irregular; urine not analyzed, but looked normal in color and amount. Pre-

*Ringer, "A Handbook of Therapeutics;" Potter, "Materia Medica and Therapeutics," p. 600.

scribed aconite, copious drinks, punch, egg-nogg. Left word that if not better in the morning I would call. His sister called at my office the next morning to say that he had passed a good night, and was apparently better. I thought my fears in the case were groundless. Prescribed iron and a generous diet, telling them to report.

It seems that he improved until the night of November 14th, when, delirium being severe, the child's parents hurriedly called in the nearest physician. This physician assumed full control of the case, pronounced it simple scarlatina (there was slight diffuse redness of the skin at the time), and prescribed "some herbs."

Next day, November 15th, there were severe typhoidal tympanitis and diarrhea. On account of these symptoms, the physician in charge changed his diagnosis to that of typhoid fever. Occasional rigors or slight "chilly feelings" were mentioned as being present at this time.

November 16th: Delirium constant; but by an effort the patient could be aroused into dull consciousness. The parents thought the boy was "hard of hearing."

November 18th: Delirium constant; spine tender; tetanic convulsions and opisthotonus. The physician then declared it to be cerebro-spinal meningitis, and, in spite of the parents solicitations, refused consultation.

November 19th: Assymmetry of the pupils; great swelling of the throat, particularly on the right side; deglutition almost impossible; great hoarseness; dyspnœa; urine scant; occasional involuntary evacuations of the feces; dryness of the skin and mucous membrane.

November 20th: "Yellowish-white membrane" coughed up, leaving the throat raw; throat swelling rapidly; breathing labored. That night (1:00 o'clock A.M., Nov. 21st) the patient died of suffocation. The skin on the neck, arms and chest was discolored with patches of brownish-purple discoloration; left arm not swollen; axillary glands not swollen.

The case is unique in that it is the only one whose cause is directly traceable to vaccination.

ATMOSPHERIC CHANGES AS A DIRECT FACTOR IN THE ETIOLOGY OF CATARRHAL DISEASES OF THE RESPIRATORY TRACT.*

BY HENRY B. HITZ, M.D., MILWAUKEE.

Laryngologist Children's Hospital.

To the mass of accumulated literature upon the etiology of catarrhal diseases of the upper air tracts I desire to add a few facts, the result of clinical observation; and to emphasize, if possible, one important point, but lightly touched upon in text-books, viz.: that of sudden thermo-barometric changes.

In this the region of the Great Lakes, where the prevailing climate is tempered by vast bodies of ice-cold water; where, too, the continental iso-thermal and iso-barometric lines show the greatest irregularities, the physical condition of the atmosphere frequently undergoes sudden and great changes in both temperature and pressure. Especially is this the case in the regions directly contiguous to the Lakes, where in the summer-time the intensely hot days are frequently preceded or followed by chilling fogs that roll in from the waters and envelop the shores at sunrise and sunset. During the winter-time not infrequently the temperature will drop from 30° F. above zero to 20° F. below, in the course of a few short hours, while rapid barometric changes are of frequent occurrence throughout the year. Both of these latter conditions persist, in a lesser degree however, over a large area occupying the northern part of the Mississippi Valley. As trivial as these changes in themselves may appear, it is safe to assume that they are prominent factors in the etiology of primary catarrhal imflammation of the air-passages.

That general disturbances of bodily health, whether acute or chronic, acquired or hereditary, are prominent elements in these inflammations I readily admit, but that they occupy the position generally accorded them I do not believe. Certainly, in nearly 50 per cent. of the cases seen by me, the patients present otherwise clean bills of health. I do not wish to be understood as underrating bacterial or other influences, but it is my firm belief that micro-organisms never find soil for their development except when the vitality of the tissues has been previously lowered.

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*Read before the Milwaukee Medical Society, June, 1896.

Aside from the irritation of such foreign bodies as pollen and smoke or chemical fumes, the manner in which atmospheric changes affect the mucous membrane of the air passages, particularly that of the nose, from its exposed position and peculiar structure, is somewhat as follows: A person living in a home heated to a temperature of 70° F. or more, steps into the street where the theremometer registers perhaps 20° F. below zero, as is frequently the case during our winter months. What happens then? The mucous membrane covering the turbinated bodies, particularly the inferior, immediately feels this instantaneous change of over 90° F. The passage of the intensely cold air over the unprepared mucous membrane blanches the tissue by producing an acute capillary anemia. This is shortly followed by a prolonged reactive congestion, with all that it implies, often lasting for hours.

The tissues may recover entirely from one such exposure, but more frequently it will be the beginning of an attack of acute rhinitis. It is, however, after repeated exposures of this kind, unavoidable in this climate, that we look for and frequently find the early manifestations of chronic rhinitis, and as the disease progresses each stage has its own peculiar symptoms, until hyper-secretion of a more or less serious type, and stenosis, begin to undermine the vitality of contiguous organs, viz.: the naso-pharynx, pharynx, larynx, tonsils, teeth, Eustachian tubes, ears and eyes, and more remotely the deeper-seated respiratory organs.

Somewhat similarly, and yet in a distinctly different manner, is the turbinated mucous membrane affected by changes in the atmospheric pressure. This can be readily appreciated by those who are familiar with the principle of the barometer. It has been constantly observed by the author, that when this instrument shows a lowered air pressure the inferior turbinated bodies appear congested, full and round, and should the nasal passages be at all contracted free respiration is interfered with. Conversely, on fine, clear days the absence of capillary engorgement is pronounced. Not uncommonly patients will remark this difference themselves. These barometric changes, occurring frequently, often several times a day, cause more or less continued congestion of the nasal mucous membrane, lasting for hours, which must of necessity result in low grade inflammatory tissue changes.

Chronic hypertrophic rhinitis, by far the most common of nasal diseases in this climate, is undoubtedly largely due to the prevailing variable thermo-barometric conditions, and when once established, where these variable conditions persist, is of the most intractable nature, often being the forerunner of deeper-seated respiratory diseases,

either by direct extension downward or by the deleterious effects of mouth-breathing, necessitated by the resulting nasal stenosis. It would take considerable space to enumerate all of these secondary diseases; suffice it to say that chronic tonsilitis, pharyngitis and laryngitis are the most common, while after having existed for any length of time, alteration in the alveolar arch occurs and the teeth inevitably show signs of decay. Especially is this true of the incisors.

In accounting for this great prevalence of catarrhal affections, it might be well to recall to mind that, within a few generations at most, our ancestors were inhabitants of countries whose climatic conditions were far less variable and rigorous than our own; that they seldom if ever lived in super-heated homes, and hence were never subjected to the same great and sudden variations of temperature; that atmospheric pollution by the smoke and dust of great factories and cities was almost unknown; and finally, that nature in order to equip its creatures for radical changes of environment, or other physical conditions of life, requires the aid of centuries to complete its evolutionary work; we can thus readily appreciate the difficulties under which the exposed mucous membranes of modern mankind functionate. Just as the process of evolution appears to be slowly eliminating from the human system that apparently useless and dangerous organ, the appendix, so, too, we can well believe the same slow process is at work altering and improving the organs of respiration to meet the requirements of our environment and more modern and cosmopolitan life.

In closing, I wish to call attention to a method of treatment in these cases, for the reduction of large hypertrophies, that has been but little used in this country, which is at the same time the most effectual, quickest and best method that I know of, giving the greatest immediate and enduring effects. It is that devised by Mr. T. W. Carmalt Jones, of London, known as the "spoke-shave operation," for partial or total extirpation of the inferior turbinated bodies. (For technique and descriptions, see *Jour. Laryngology, Rhinology and Otology*, December, 1894.)

This instrument has been eminently successful in my own hands in many cases where the galvano-cautery has been several times used ineffectually, and in every case that I have been able to follow have the results justified my high opinion of this method. To those who would argue against this procedure on the ground that thereby the normal function of the turbinated bodies is lost, and that the lower air passages are consequently exposed to disease, I would put the question: is not the normal function of the turbinated bodies destroyed when hypertrophy has become so pronounced as to cause obstruction?

Furthermore, the stump of the removed turbinated body, after healing, appears to be covered with true erectile tissue, so much so that in examining two cases, at least after six months, I would have been surprised had I not previously removed immense hypertrophies, so apparently normal did the nasal cavities appear. So far I have not had one case return complaining of dryness of the throat.

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ACCESSORY SINUSES OF THE NOSE.—REGIONAL ANATOMY.—NEW SUGGESTIONS FOR OPERATION.

BY J. H. FARBER, M.D., DAYTON, OHIO.

While our knowledge of the anatomy of the nose is not questioned, yet the summing up of a few points on the location of contiguous sinuses, method of reaching them, and dangers to be guarded against may not be amiss, and to the busy man will save an exhaustive search of Gray's or other anatomies.

The different sinuses will be taken up in order, their general shape and size, with their variations and communications. Starting off then with the floor of the nares, we find quite often that the outlet in front is almost if not quite on a line with the superior surface of the inferior turbinate, and that the scroll turn of the inferior turbinate is below the outlet, and consequently the inferior meatus is not seen from in front. This condition is due, not to the small size of the inferior meatus as compared with other cases, but to an encroachment upon the meatus by the superior maxilla in front. This statement while apparently simple means considerable, for the inferior meatus is not easily cleared of secretion in these cases, and the accumulated secretion is a prime factor in setting up catarrhal trouble of the nose, and easily causing hypertrophy of the inferior turbinate posteriorly and catarrh of the Eustachian tube. The amputation of the anterior end of the inferior turbinate is readily done and the meatus thus opened more freely. These cases cannot be successfully treated otherwise.

THE ANTRUM.

The antrum, in importance greater than the former, will next be considered. The cavity of the antrum is constant, and it is more or less uniform in size in the same subject. Its dimensions are not of great importance; but what is of importance is, that its walls and floor are more or less smooth and regular, differing in this respect from many other bony sinuses, thus making it easier to clean and

drain. Its very thinnest wall is the internal one, forming the external lateral wall of the nose. In this wall is found the foramen, almost below the exact center of the middle turbinated bone, measuring from before backward, and in the middle meatus. This opening is rather large, varying from one-fourth to one-half an inch in the skull. A line drawn horizontally through this hole, from side to side of the face, would cut almost the exact center of the cavity of the antrum. For this reason I cannot believe that, where the disease of the antrum is at all prominent, it can be successfully treated through this foramen. This wall of the antrum is exceptionally thin, and great care should be exercised in probing the middle meatus for any cause. The most rational place for opening the cavity is the same as for any cavity, namely, the most dependent part and the safest part. Sometimes we can disregard partly the danger in getting at the most dependent part. For this cavity the best location for puncture is just beneath the inferior turbinate, in front of the opening of the tear duct. Here the wall of the superior maxilla varies in thickness. One skull I examined showed a thickness at this point of almost one-fourth an inch, but nevertheless it was the proper point to puncture, for when made it was exactly on the floor of the antrum, and this site for puncture I believe is the only proper one. It is not necessary to remove a tooth as in the old way; in fact it is absolutely wrong to do so. The size of the puncture should be no less than one-eighth of an inch, and it may be three-eights of an inch. It is not necessary to use a drainage tube; perhaps it is best not to do so. It can be readily opened each day or twice a day for irrigation and injections with but little pain and discomfort. The puncture *can be* made by an ordinary trocar or a specially-made sharp-pointed trocar, without general or local anesthesia. But of course it is painful and chloroform is justifiable in some cases. The dental drill is a convenient and safe instrument for this operation.

I have found that when plenty of time is taken, and great gentleness and not too great display of formidable instruments or rolling up the shirt sleeves and putting pails and great wads of cotton in sight, that many somewhat severe operations are nicely borne by even nervous patients.

THE FRONTAL SINUS.

This sinus is irregular and unsymmetrical, sometimes very large, again quite small, sometimes large on one side, *i. e.*, of the middle line, and small on the other. The prominence of the frontal bone at this point bears no relation to the size of the cavity, or perhaps it is better said that the prominence is no indication of the size of the

cavity, for some skulls show an enormous prominence with scarcely any sinus, while others again do not show so great prominence and yet there is a large sinus. One skull in particular presents itself to my mind which had the largest prominence I ever saw. On the right side of the median line there was a most extensive sinus; on the left side scarcely any at all.

The median line of the face does not always cut the dividing line of the sinuses. Nor can these cases be particularly diagnosed. The sinuses themselves, of greater or less size, are constant. Sometimes there is but one continuous and irregular sinus; sometimes the sinuses do not communicate with each other. Usually the largest and most dependent part lies within one-half an inch of the median line. In operating upon the sinus from the superciliary ridge you never strike the most dependent part, nor is it by any means the thinnest wall. Its thinnest external wall is immediately under the ridge in the orbital part, or very near the median line. Its very thinnest wall is at the end of the infundibulum. Now while success follows trephining these sinuses from above, it is principally on account of its favorable outlet, the infundibulum. In other words, the drainage usually is most important for the cure of the disease. (In a few cases the communication with the infundibulum has been difficult to find). Why then should we not enter through the infundibulum? This is the rational way. And if we remember to follow the general direction of the sinus, keeping close to the front of the nose and alongside the septum (within one-fourth of an inch), we will reach the sinus. But it is not an easy thing to do in every case, and much force here is not so desirable, and some skulls have shown that it would be almost impossible to reach the sinus from inside the nose, chiefly on account of the contour of the parts. The best location for external puncture would seem to be just under the prominent margin of the orbit, about one-half inch from the middle line of the face. At any rate this site is perfectly safe.

There are objections to the incision at this point, which, after all, are not serious; the fact that you reach the most dependent part of the sinus counterbalances the œdema of the lid that follows. If the incision above be made, I would also be sure to open the infundibulum. Fortunately the frontal sinus is very amenable to treatment wherever opened.

THE SPHENOIDAL SINUS.

Here in some cases is a remarkable sinus, occasionally of enormous size, even sometimes twice as large as the maxillary antrum, of irregular shape or outline inside, sometimes having a communicating smaller

sinus on one or both sides. Its walls are very thin, both its superior or dural wall and its inferior or post nasal wall. The terms superior and inferior are not strictly well used, the sinus reclining so to speak at an angle, its long axis making an acute angle with the vertical line of the body. Now the most dependent part of this sinus is almost exactly on a horizontal line drawn antero-posteriorly through the nose, cutting the sphenoid at its juncture with the lower border of the vomer. Like the frontal sinus, the center of this sinus does not always lie in the middle line, its largest dilatation being sometimes very considerably on one side of the median line, so that a puncture any place else except close to the vomer might miss it altogether. As before remarked, its walls are extremely thin in some, and most cases, and sometimes there is a sort of double sinus, some cases completely so. The second or smaller one lying almost immediately behind the posterior extremity of the superior turbinated bone; and here, when this is the case, its post nasal wall is even thinner than the wall of the main sinus, and this small sinus usually communicates with the main or larger one. Now, it would seem that absolutely the best place to puncture this large sinus is very near the median line or almost against the edge of the vomer and about one-fourth to three-eighths of an inch above the point where the inferior border of the vomer articulates with the sphenoid. The exception to this case would be where *abundant* evidence of disease was present. By opening at the point suggested, there is but slight danger, and if the cavity is there you will not miss it and you will have opened it at its most dependent part as near as may be. Fortunately this sinus is not frequently diseased, as ordinarily its closure is complete, or practically so. The intimate relations it has with the optic commissure and the nerves and blood vessels of the eye, on its dural surface, suggest the many possible complications that might arise in diseased conditions.

THE ETHMOIDAL CELLS.

Here we have the key to the sinuses. Here is most frequently the source of the antral, frontal and sphenoidal diseases. The anterior cells are two or three in number. The first one, frequently the smallest, lies immediately behind (external to) the anterior end of the middle turbinate; in one case both the first and second cells were opened on removal of one-half inch of the anterior end of the turbinal, the cell extending into the turbinate itself. The second cell, usually the largest, lies immediately back of the first, and extending up in the lateral mass to the cribiform plate. Here it becomes dilated or sacculated and communicates with the infundibulum. Sometimes the first cell communicates with the infundibulum and also the second. Some-

times the first cell is the largest and leads up into the cribriform plate. But in either case the best point for opening is *not* through the infundibulum.

The plane of these cells lies upon a line drawn vertically parallel with the external wall of the nose. Or if you would imagine a triangle with its base the floor of the nose, its sides the external walls of the nares behind (external to) the scroll of the turbinate, and its apex about one inch above the cribriform plate, and imagine this triangle inside the nose so that its sides would lie one-half an inch back from the anterior end of the turbinate and inclined parallel to the plane of the face, its sides would cut the anterior cells.

The dural or brain surface of the cribriform plate is about one-half an inch above and one inch back of the lachrymal sac. And the distance from the nose outside to the first anterior cell is from an inch to an inch and a half, so that to puncture the cell from the inside of the nose it must be just above the level of the lacrymal sac and about one-half an inch back of it. The puncture can be made after the removal of the anterior one-half inch of the middle turbinate. In acute or chronic cases you can make the puncture at the same time. Some operators wait until the wound of the turbinate heals. Others claim it bad practice to do so on account of the purulent discharge dripping over the cut surface. But this discharge has been accumulating on the middle turbinate for some time with scarcely more injury than an excoriation, and you certainly get good drainage as soon as the turbinate is removed. On account of the fact that the secretion is found upon the turbinate you would naturally look for other sources of the discharge, and not infrequently it will come from the infundibulum or from the anterior cell high up, or the frontal sinus or the posterior cells. But even in these cases, I would say it was good practice to remove the end of the turbinate, if for no other reason than to prevent accumulation of secretion.

THE POSTERIOR ETHMOIDAL CELLS,

Two or more in number, are much larger than the anterior. They communicate sometimes with the anterior cells, sometimes with the sphenoid, sometimes with the superior meatus, and always with each other. From their size and location it would seem that they would be more liable to disease than the anterior cells. They lie behind (external to) and beneath the superior turbinate, the largest being usually immediately behind (external to) the posterior end of the superior turbinate. It can be punctured from the superior meatus under the scroll, close to the posterior end of the superior turbinate, the point directed slightly outward, backward and upward. A large cell sometimes lies

lower down and farther back, alongside and slightly in front of the sphenoid sinus at its upper part. This cell can be punctured by following along the superior surface of the middle turbinate to its posterior end, the point of the instrument directed backward, upwards and outwards from the junction of the posterior end of the middle turbinate with the external wall of the nose.

THE OPENINGS IN THE NOSE.

The Naso-Lacrymal Duct.—Its usual site is given beneath the inferior turbinate one-half an inch from its anterior end. But it opens frequently into the middle meatus above the inferior turbinate and sometimes about the middle of the middle meatus, sometimes almost horizontally from its sacular dilatation, frequently enough in the middle meatus to cause you to be on your guard for such a case, and its wall is very thin in all its lengths, except at the junction of the inferior turbinate and wall of the nose, and a puncture may be somewhat easily made in dilating a stricture. It also encroaches upon the antrum of Highmore, and in probing you might easily enter it. One skull showed the opening of the duct and the antrum in common in the middle meatus.

The Infundibulum.—It is a triangular-shaped concavity in the most anterior part of the roof of the nose, lying close to the middle line, and extending about one-half an inch upward and backward, at an angle of about forty degrees, to or near the base of the frontal sinus, with which it usually communicates; sometimes you cannot find the communication. It also communicates with the top of the first or second anterior ethmoidal cell.

It is well in cutting off spurs low down on the septum at the naso-palate process of the superior maxilla to look out for the anterior palatine canal.

In summing up, it seems to me that in one operation in particular, viz.: puncture of anterior ethmoidal cells, you can scarcely be successful unless you remove the anterior one-half inch of the middle turbinate.

THE INSTRUMENTS.

Those mentioned have been endorsed by many writers, but I prefer a long-handled gimlet or auger, not made as the ordinary gimlet, but more like a steel drill for boring iron. This instrument, in two sizes, or in two lengths, the bit the same size, one-fourth to three-eighths of an inch, will please the operator, adapted to opening the antrum, the sphenoid and the ethmoid. In opening the frontal sinus from without, I prefer the chisel and mallet.

32 West Fifth street.

ANTERIOR SOFT HYPERTROPHIES OF THE NASAL SEPTUM.

BY EDWIN PYNCHON, M.D., CHICAGO, ILL.

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Deformities of the nasal septum are deservingly recognized as ranking first in importance among the causes productive of nasal catarrh in many of its several varieties. The most commonly met with of the septum deformities are:

Firstly—Deflections, either simple or serpentine in form, and slight or great in degree.

Secondly—Thickenings of or growths upon the septum, either bony or cartilaginous in character. And

Thirdly—Perforations.

The object of this paper is to emphasize the importance of directing both attention and treatment to another form of septum trouble not infrequently met with, which I have chosen to denominate as anterior soft hypertrophies. When present, this condition will be found near by or opposite to the anterior end of the middle turbinated body. While sometimes it is observed upon an otherwise normal septum, it is more often associated with one or more of the previously-mentioned septum defects, and in such case tends to magnify the importance thereof, both structurally and pathologically. The diagnosis of this condition is attained by the use of a thin steel nasal spatula, with

Steel Nasal Spatula (½ size).

which pressure can be made, and with this properly directed the soft growth can be materially depressed away from the opposing turbinal, so that space is created where before slight pressure existed. After

the parts have been cocainized this soft, bulging mass will be found to have not materially reduced in size, thereby proving that it is not due to turgescence or hyperæmia, and that it is a condition of chronic relaxation, or, in other words, a true hypertrophy. In extent it may vary from one-half to one-and-one-half inches in length from before backward, often extending well into the superior meatus, and in width one-half inch or less from below upward. While more often unilateral, it has in several cases been observed upon both sides of the septum, though differing in degree. In color these growths are reddish, or the same as that of the adjacent mucous membrane, in contrast with the soft hypertrophies at the posterior end of the septum, which are invariably white.

Thorough ventilation of all parts, and particularly of the attic of the nasal passages, is one of the desiderata of perfect nasal respiration; as it is through evaporation alone that the nasal serum can render humid the inspired air, and whenever opposing surfaces touch each other the free circulation of air is impeded, and the nasal secretion instead of being evaporated is retained, and soon converted into a catarrhal discharge, which by its irritating properties, due to partial decomposition, causes the mucous membrane at the points of contact to become still further thickened and more inflamed, until the secretion itself as formed is abnormal.

The principle of treatment, which we may say *en passant* is broad enough to apply all along the line in intra-nasal surgery, is to correct the abnormal contact of opposing surfaces, so as to permit of the unobstructed circulation of air through all parts of the fossæ; hence the indication is to destroy such soft hypertrophies as those of which this paper treats, and in practice I have found as a reward the satisfactory results which the theoretical indications promise.

Conditions such as are here described, while generally of importance only as structural causes of nasal catarrh, may be extensive enough to produce additional complications—as, for example, impairment of smell, neuralgic headache from nerve pressure—in this the most sensitive region of the nose, and other neurotic reflexes, as sneezing, cough, etc.

The treatment is as simple as any rhinological procedure which the nasal surgeon is called upon to follow, and consists in the making of two, or more often three, parallel incisions with the electro-cautery point, reaching from rear to front of the bulging tissue. It is my experience that the cauterization had better be deep, each line being gone over a second time, and the lines being about one-eighth of an inch apart. No unfavorable reaction or result has been met with, and on

about the third day a large slough, an inch or so in length and three-eighths of an inch in width, is removed. Increased freedom in respiration is invariably experienced. During the operation care is of course taken to avoid burning the turbinal; and it has been my custom after the operation to thoroughly anoint the parts with a twenty-per-cent. solution of camphor-menthol in lavoline.

I will close by reporting one case wherein a marked benefit was derived from this operation, it being my first experience therewith.

November 8th, 1892, Miss T. H. placed herself under my professional care. Her most pronounced symptoms were susceptibility to coryza and hoarseness, and a chronic bronchial cough of long standing. She stated that she "easily became tired out, and suffered from a lack of ambition." She had a badly-coated tongue, and gave a history of constipation. Examination revealed the usual number of nasal hypertrophic obstructions, and their common concomitants, pharyngitis and laryngitis. She had for some time been under the care of specialists of good standing.

I began in the orthodox way, by removing all observable nasal deformities, and next, by electro-cautery dissection, her tonsils, which were of the small, diseased variety, never becoming actually inflamed, but ever discharging that characteristic, chronic, lacunar, cheesy secretion. In other words, the line of treatment was to remove all hypertrophied or diseased tissue, and cause the nares, naso-pharynx and fauces to assume as nearly as possible the *form* of the ideal model.

After each step, during about five months of irregular treatment, the patient experienced increased relief, until most of the symptoms vanished, except the cough, and even this was somewhat modified. During the last month, at my suggestion, she was treated for the cough by a specialist in pulmonary troubles.

July 8th, 1893, she reported: "General health much better; bowels more regular; and not feeling so tired after exertion; no more soreness of throat or coryza since treatment, but the bronchial cough continues much the same." By laryngoscopic examination, while the vocal cords appeared normal, there still remained an abnormal redness of the glottic mucous membrane. She expressed a hope and belief that I would find some other abnormality, which, if corrected, would finally cure the cough. Four days later, after a most searching examination, I discovered in her left naris, high up in the attic, an extensive soft growth upon the septum, such as has been described. Three days after the cauterization the slough was removed, and from that time on there was a progressive improvement of the cough symptom.

August 5th, reported: "Feeling fine; no more bronchial cough;

nothing but a slight expectoration in the morning from the little post-nasal discharge still remaining." For the relief of this, the following January (1894), I cauterized in the attic of the right naris a soft hypertrophy similar to, though smaller than, the one in the other naris previously operated upon.

December 20th, 1894, reported: "Comparative freedom from colds, where formerly cold lasted all winter; no recurrence of cough; feeling in all ways very much better."

Columbus Memorial Building.

CORRESPONDENCE.

Editors of THE LARYNGOSCOPE:

On my return to town a few days since I saw for the first time Dr. Payne's somewhat impulsive criticism of the Bosworth Saw, and of Dr. Black's endorsement of it in his paper in your July issue. Dr. Payne says that "the Bosworth Saw has its teeth set forward, and cuts on the push." That his criticism should have been of his instrument-maker rather than of the saw is easily seen from the following extract taken from the original paper in which the saw was first described (*N. Y. Medical Record*, Jan. 29th, 1887):

"The blade to be as thin as possible consistent with strength, an eighth of an inch in width, five inches long, with a cutting edge of three inches, thirty teeth to the inch. Each tooth an exact equilateral triangle, with no cross cut or set to the tooth, the handle being three inches long, and attached to the blade at an angle of forty-five degrees."

As you see, I was rather careful to describe the instrument which, after long experiment, I found would do the work in a cleanly and unhesitating manner; in other words, one which would neither "hang, break nor bend."

It may be of still further interest to note the full title of my paper, as follows:

"Deformities of the Nasal Septum. A New Operation for their Correction, with an Analysis of its Results in 166 Cases, as Throwing New Light on the Pathology of Diseases of the Upper Air Tract, and their Relation to the So-called Nasal Reflexes."

At the time of this publication our only treatment of deflection of the septum practically consisted in breaking down the angular projection by means of a pair of forceps, forcing the fragments into their proper alignment, and then maintaining them in position by means of some form of plugs. The affection was really, in the main, treated as a deformity to be rectified on orthopædic principles. Curiously enough the procedure was taught us by an orthopædic surgeon, and was called "the Adams operation," after its originator.

The saw was devised to remove the projecting portion of the septum, and thus to restore patency to the nasal passage.

A still further principle advocated in the paper was that nasal obstruction, by abolishing or seriously hampering the important physiological function of the turbinate bodies in respiration, was the efficient cause of catarrhal disorders in the air passages below. Thus laryngitis, trachitis and bronchitis, as well as ear troubles, were in most cases secondary to and dependent upon some intra-nasal disease, which interfered with this respiratory function of the turbinated bodies. Hence the prominent indication in treatment was not merely to open the nasal passages, but to restore to the turbinated bodies their functions. The saw was devised with this intent. Its special form was not important as long as it performed its work, whether by electricity or muscular action. The blade is the essential thing, and in this I feel much flattered that Dr. Black holds to the view that the original instrument has not been improved upon.

Very truly,

F. H. Bosworth.

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EDITORIAL.

VOLUME I., NUMBER 1.

Unfortunately we did not reserve enough of the initial number of THE LARYNGOSCOPE, and now find ourselves with but two copies, and still receiving requests for subscriptions to be dated from volume I., number 1.

If any of our friends received two copies of our July issue, will they kindly mail us their spare copy? We would also request our friends to mail us the names of their friends whom they think will be interested in seeing a copy of this publication.

PROPHYLAXIS.

Extensive disease of vital structures, so frequently observed in our special clinics, prompts me to emphasize the importance of giving due attention to these organs in practical undergraduate instruction.

When we recall the number of individuals ostracized from the useful class of mankind because a local affliction was left to heal by nature, it behooves us to impressively enlighten the ignorant, and thus probably save many from a similarly pitiable fate.

Intelligent care of the new-born is of considerable aid in molding a constitution so that same may be able to brave the vicissitudes of after-life. Proper attention to dress in early life is an important factor in hardening the individual. At this early period the child is apt to be bundled up and overclothed. We must always remember that the external epithelial structures are in perfect harmony with those of the internal tissues, and this relationship ought to be maintained in an agreeable manner. By overdressing we weaken the external resistance, and thus expose the economy to frequent catarrhal attacks. To avoid this susceptibility, we should accustom the child to receive cold douches as a prominent feature in its daily toilet. Scant but sufficient clothing should be worn. Exposure of the neck and head should be practiced. Overfeeding should be guarded against, as derangement of the gastro-intestinal tract is a prolific source of irritation to the upper air-passages.

We must be ready to recognize the various complications occurring during an eruptive or any other disease. This is of special moment, as measles and scarlet fever usually offer the great majority of aural sequellæ. In such instances regular attention to the nose and throat must be carried out, so that any inflammatory process may be kept in check. The method of cleansing must be well considered; much harm has been done by douching these tender parts with a forcible stream. Atomization is a pleasant and serviceable manner of removing foreign matter from these cavites, and at the same time is devoid of danger to adjacent parts. An oily solution may be employed, which may contain any of the numerous essential oils that possess antiseptic and soothing properties. If, however, the ear should become affected during such an illness, prompt local treatment should be applied. Nonchalant attention at such a time may result in serious and even fatal complications. If symptoms arise which cannot be explained by the original affection, we must never fail to examine the organs of special sense. Here the importance of practical undergraduate instruction is vividly demonstrated.

It is only of recent date that the subjects of laryngology and otol-

ogy have been given proper consideration in our undergraduate institutions. The rapid strides of medical science, and the concomitant advance of laity independence, demand a more extended period of clinical instruction, and the addition of a year to the former curriculum of our modern medical institutions gives more time for the practical instruction of these subjects. Systematic and individual work must be performed by the student. Teaching *en masse* is most unsatisfactory. An intelligent examination of these parts is not as simple as it may seem at first blush. Proper illumination is the first element in arriving at a proper diagnosis. My experience with under- and post-graduates leads me to believe that the adjustment of a head-mirror is not by any means a subject to pass over in a superficial manner. Section-work in these branches should be made obligatory, so that we may offer to the community at large a physician fully able to appreciate the dangers lurking near.

Careful inspection of adjacent tissues must always be practiced, for not uncommonly the exciting cause may be found situated some distance from the existing trouble. Post-nasal vegetations frequently cause suppurative disease of the middle ear. They may give rise to hoarseness, cough, spasmodic croup, chorea, enuresis, inanition, and other troublesome symptoms. Diseases of the nose frequently produce secondary changes in the other portions of the economy. So that examination of these parts must not be forgotten.

The dire consequences of neglect must be pointed out to those who are inclined to view such affections lightly. Prompt surgical methods should be advised when indicative symptoms appear, and too much time should not be lost in palliative medication. We are always justified in performing an exploratory operation, under our present system of antiseptic training, when masked symptoms persist. Rather a few weeks too early than a moment too late. Though a firm believer in conservatism, I never hesitate to promptly employ radical measures when indications arise.

Much good may come from systematic examinations of school children. In this way latent disease may be discovered and treatment advised, thus saving the young one from a chronic affection, which not only handicaps the child in early life, but if left without skillful treatment will probably cause much misery and deprivation. As a rule, treatment to special organs should be attempted as early as the deviation from the normal is discovered. By following out this line of thought, we may in many instances intercept prolonged suffering and discomfort, and thus assist materially in giving the afflicted one a chance to become an active member of society. M. D. L.

GRATUITOUS SPUTUM EXAMINATIONS BY THE LOUISIANA STATE BOARD OF HEALTH.

Following the example of the Boards of Health of New York, Philadelphia and St. Louis, the Bacteriological Department of the Louisiana State Board of Health has, by authority of the Board, issued the following circular letter to every medical practitioner in the city of New Orleans:

"In view of the importance of a bacteriological examination in a large proportion of cases of confirmed or suspected tuberculosis, as regards the diagnosis, prognosis, treatment and prevention of this disease, the Board of Health has decided, in connection with its diphtheria service, to establish a service for the gratuitous examination of the sputum of cases of pulmonary consumption, or suspected pulmonary consumption, under the following regulations:

"The sputum must be collected and prepared according to the directions found below, and properly forwarded to the Bacteriological Laboratory. The data asked for in the form accompanying specimen bottles must be furnished in every case. Those data, properly recorded and kept, will furnish, in the course of a few years, valuable statistics.

"It is for this purpose only that the Board must insist that they be as exact and thorough as possible, and make the compliance with its wishes in this respect a condition of the examination. The results of the examination made will be given to the attending physician only, and without charge, as promptly as possible by mail or telephone.

DIRECTIONS:

"Sputum should be collected only in clean, wide-mouthed, well-stoppered bottles, with a capacity of from two to four ounces. Suitable bottles are supplied by the Bacteriological Laboratory, and have been placed in some of the principal drug stores, as per appended list, for the convenience of physicians desiring to make use of them. Care should be taken that bronchial, and not pharyngeal secretion, is collected. The expectoration discharged early in the morning is preferred. If the expectoration is scanty the entire amount in twenty-four hours should be collected. The bottles must be tightly corked, and, with the information called for in the blank form furnished by the laboratory for that purpose, returned to the drug store where same was obtained. The results of the examination will be given as promptly as possible by mail or telephone."

The Bacteriological Department of the Louisiana State Board of Health has done excellent service in the past two years in making bacteriological examinations in cases of suspected diphtheria, and the effectiveness of its work has, no doubt, had great influence in the marked reduction of this infectious disease in New Orleans. The gratuitous examination of sputum in cases of tuberculosis or suspected tuberculosis will prove a great convenience to the practitioners of

New Orleans and of other parts of the State, and the information obtained by the Board regarding the age, sex, color, occupation, etc., of the affected subjects will, no doubt, furnish valuable material for statistics, which may be of great service in the future in the consideration of tuberculosis from a hygienic standpoint.

We commend the enterprise of the Louisiana State Board of Health, and the zeal of Dr. Archinard in charge of the Bacteriological Department. W. S.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Reflex Disturbances of Nasal Origin.

Dr. Masucci (Naples) states that the study of reflexes is an essential complement of anatomy, physiology and pathology, and that it is destined to give us the key to many physio-pathological phenomena which have been, until recently, veritable enigmas. (*Revue Internat. de Rhin., Otol. et Laryng.*, Sept., 1896.) He refers to the researches of Hack, Ziem, Nied and other well-known observers who have obtained such brilliant results in this connection, especially with regard to asthma of nasal origin.

He then reports the following cases of nasal reflexes observed in his practice:

Case I. A little girl suffered from nocturnal enuresis and from chronic hypertrophic catarrh of the naso-pharynx; the latter being cured, the enuresis ceased. The cure of the enuresis may be explained by the fact of the re-establishment of the oxygenation of the blood, the slow intoxication by carbonic acid having set up an injurious excitation of the bladder.

Case II. A young girl of 15 years, affected with hypertrophic rhinitis, suffered at the same time from metrorrhagia. When the rhinitis was cured, although imperfectly, the uterine functions became normal.

Case III. A young girl was affected with light exophthalmos and swelling of the thyroid gland, the case having been diagnosticated as Basedow's disease. As she complained of difficulty of nasal respiration, a rhinoscopic examination was made and showed the presence of numerous polypi in the left nasal fossa. The polypi having been removed, the exophthalmos and the goitre slowly disappeared.

In this case there had never been any cardiac symptoms. We must admit that an irritable condition of the peripheral terminals of the sympathetic in the nasal mucosa are capable of provoking symptoms which resemble those of Basedow's disease, or, at least, of a degener-

ate form (?) of that affection. It is in reality, in his opinion, a case of direct reflex.

Case IV. A young man was affected with a rebellious exudative pharyngitis, and suffered besides from an irritation of the peritoneum, which became worse whenever the pharyngeal secretion increased. All the treatment, which had been directed to the abdominal symptoms, was unsuccessful until the pharyngitis improved. He also believes this to be a case of reflex.

He could quote many cases of nasal asthma and reflex anosmia, etc., but such cases are too well known. He concludes by stating that there are many reflexes, as between the pharynx and the peritoneum, between the thyroid gland and the nasal mucosa, between the heart and the throat, which have not been satisfactorily explained, but whose existence are indisputable facts. We must, therefore, make the most critical examination of each case, classify it, and await the time for a scientific explanation. W. S.

Recurrent Erysipelas of the Face.

Dr. H. Lavrand (Lille) states that it is not necessary to discuss the difference between traumatic and spontaneous erysipelas, as both are due to an infection by the same micro-organism—the streptococcus of Fehleisen. (*Revue Hebd. de Lar., d' Otol. et de Rhin.*, Sept. 5, 1896.)

Erysipelas of the face is a disease of great frequency, and especially spontaneous erysipelas, as it is rare to see a single attack, there being more often several in the same individual. He believes that these attacks are most frequently of nasal and pharyngeal origin, and, from a study of nine cases, which he reports, arrives at the following conclusions:

1. In most instances, spontaneous recurrent erysipelas of the face develops from the nasal fossæ through the lachrymal duct or the nostrils.

2. The point of departure (whether from the penetration of germs or the revivication of such germs lying dormant in the tissues) is either in the nasal fossæ or, more frequently, in the more or less hypertrophied adenoid tissue of the pharyngeal cavity.

3. The preventive and also the curative treatment of recurrent erysipelas of the face consists in taking care of the nasal and naso-pharyngeal cavities, but especially in reducing the adenoid tissue in the pharyngeal vault, which appears in the forms of adenoid tumors, or only in the form of granulations, which the surgeon must remove even from between the Eustachian cushions. In this manner, a port of entry is removed and the too favorable soil for the culture of the streptococcus. W. S.

Two Interesting Nasal Cases.

CASE I. *Primary Nasal Syphilis.*—This affection was observed in a turnkey of a police station (Ellwood Matlack, Phila., *N. Y. Med. Journal*), whose duties brought him in contact with the lower classes. For nine weeks the patient noticed a slight bloody discharge from the right nostril, with difficulty in breathing through that side. Examination showed an ulcer with infiltrated edges on the anterior end of the inferior turbinal, and extending along the inner surface of the ala to within a short distance of the muco-cutaneous junction. It was covered with a slough. Escharotic treatment proved unsuccesful. The ulcer extended and became phagedenic, causing swelling of the submaxillary glands, and a marked prominence of the external surface of the nose. Full doses of mercury were given, and the ulcer disappeared in four weeks.

CASE II. *Nasal Cystoma.*—The patient, a female, complained of nasal obstruction and aural catarrh with tinnitus. Pain, referred to the left malar bone and lower edge of the orbit, was a prominent symptom, together with an intermittent, unilateral nasal discharge. The pain increased in severity until a discharge of straw-colored fluid appeared from the affected side, when the symptoms disappeared. On inspection, a cyst attached to the end of the middle turbinate was discovered, extending over and at times covering the pharyngeal opening of the Eustachian tube. The mass was removed, and recovery promptly took place. Three months later there was a recurrence.

M. D. L.

A Case of Actinomycosis of an Osseous Form of the Inferior Maxilla.

The disease appears to have had its development from the center of the maxilla, and commenced with a necrosis and an abundant proliferation of the periosteum, in a young man of 26 years. (Dr. Fevrier in *Revue Hebd. de Lar. d' Otol. et de Rhin.*, Sept. 12, 1896.) The beginning of the trouble dated back three years; he had, at first, pain around a carious molar; this was removed, as also the adjoining molar. The pain, however, persisted in spite of the removal of the teeth, and there soon developed an abscess near the point of implantation of the two extracted teeth.

The pus discharged from the abscess, and the neighboring teeth fell out, but the wound did not close; the jaw during this time was very much swollen.

An examination showed within the opening, which was surrounded by a thin fungosity, a long sequestrum and a quantity of pus, of an

infectious odor, which contained a number of yellow, blackish particles. These particles, examined under the microscope, were found to be actinomyces. W. S.

Non-Fetid Ozena.

Dr. C. H. Burnett (*Phila. Polyclinic*) calls attention to the fact that the absence of bad odor in atrophic nasal catarrh is a clinical disadvantage to the patient, because the true nature of the nasal disease may not be suspected, and therefore the proper treatment not applied by the general practitioner under whose care they may be.

Evil Effects of Nasal Operations.

Dr. H. A. Alderton (*Brooklyn Med. Jour.*) while discussing a paper on chronic nasal obstruction calls attention to the fact that middle ear troubles are frequently established by incautious operative procedure in case of adenoids or posterior hypertrophies; also, that long-continued treatment of the nasal mucous membrane with astringent or irritating remedies often produces subacute affections of the Eustachian tube or in the middle ear.

Ætiology of Deviations, Spurs and Ridges of the Nasal Septum.

In a very interesting paper on a subject (John O. Roe, Rochester, N. Y., *N. Y. Med. Journal*, Oct. 10, 1896) which has repeatedly attracted the attention of the specialist, the author divides the causative factors into two classes, *i. e.*, predisposing and exciting.

Diathesis he mentions as an important predisposing cause, and states that such deformities are frequently observed in individuals suffering from either the strumous, syphilitic, tubercular or rachitic taint. Racial characteristics is also given as being a factor in the production of these malformations. Increased development of the cranial mass assists in rotating the septum on its perpendicular axis, and so causes same to assume an angular position. Europeans and Americans are more frequently affected in this manner, while the savage races are seldom subjected to these irregularities. The purer the race the less frequently are deflections of the septum observed. The greater the degree of admixture the more often is this peculiarity noticeable.

Exciting causes of septal deflection may be either internal or external. Defective development, diseases of the septum, and diseases of other parts of the nose, come under the head of the internal division. Defective development of the plates of the vomer give rise to deviations of the septum. This pathological condition may result when ossification of the septum proceeds from centres situated in two different bones, and the ossific deposits do not meet in the same plane.

Ossification begins in the posterior portion of the septum, and this fact accounts for its usual good position at this location. Hypernutrition and a diseased state of the septum may result in spurs and ridges, and these are generally found along the articular surfaces of the septum. Diseases of the turbinated bodies are mentioned as a cause, though the author believes that the hypertropied turbinal, usually found on the concave side, is the result and not the cause of the deflection. He thinks that the hypertrophy is a compensation of nature for extra work. Obstruction of the anterior portion of the nasal cavity is mentioned as a cause of deviations. Rarefaction of the air behind the obstruction takes place, and the increassd atmospheric pressure, acting upon the septum from the opposite side, forces it from the median line. The principal external exciting cause is traumatism. Other external influences are: habitually blowing the nose with the same hand; the habit of inserting the finger into the nostril to remove scabs, etc. Heredity must not be overlooked as an important predisposing cause. M. D. L.

Methods of Diagnosticating Diseases of the Antrum of Highmore.

Dr. Frank S. Milbury, in *N. Y. Med. Journ.*, October 17th, reviews the various methods employed in the diagnosis of antrum disease; he refers to the puncture with a straight trocar through the inferior meatus, followed by irrigation for detection of pus; exploratory puncture through the alveolar arch; irrigation through the natural orifice; detection of the characteristic creamy, lemon-yellow pus, without the accompaniment of any ulceration or nasal inflammation, unilateral, and pus offensive in odor. These methods are all good, writes M., but the most feasible and practical way of diagnosis is by electrical illumination. The electric light, as contradistinguished from the other methods cited, has been found a convenient, painless, and reliable diagnostic measure in antral disease and other sinuses about the head and face.

The light used for illumination is a one to three candle-power incandescent lamp, with the handle so arranged that the current may be turned on or off at will. The room must be absolutely dark. The lamp is introduced into the mouth; the lips and nostrils then closed; current contact is then made.

"The points of diagnosis in illumination of the antrum are in appearances under the lower eyelids, over the antral sinus; if healthy, a large, triangular light spot is seen, and, if clearly shown, we may be quite sure of a sound antrum. A more subdued illumination exists over the whole cheek and lips. In well-developed antral disease, the

whole area of the antrum is in the deepest shadow. Sometimes in health the central area is dark, but this is very rarely the case."

"The lamp may also be used for diagnosis of nasal affections, placed in the mouth and the nasal speculum used. The frontal sinus may be illuminated by placing the lamp under the orbital ridge, and in disease a dark shadow is formed. The normal tissues in these regions, in persons of all ages, are transparent, as is proved by the light; in disease, no doubt, the umbra is caused by the hypertrophied condition of the mucous membrance and not the presence of fluid in the sinus."

M. urges puncture through the anterior wall of the sinus at the canine fossæ as, the best method and point for opening and treating the maxillary sinus. The lip is well retracted and a conical incision made down to the bone. The soft tissues are retracted, clearing an area of about $\frac{3}{8}$ inch diameter. A large burr and dental engine are used to drill the perforation through the bone, and the opening enlarged by small chisel to desired size. Hemorrhage may be excessive, but is easily checked by temporarily packing the sinus with gauze. The opening is made flush with the flow of the sinus, and curettement, tumors, breaking down of sæpti, etc., is then undertaken. The cavity is then flushed, and a drainage-tube placed along its floor, and allowed to remain a week or two. Subsequent repair is always perfect.

Malignant Disease of the Nasal Cavity, Showing the Value of Early Diagnosis.

Dr. J. H. Shorter, in *Jour. Am. Med. Ass'n*, September 19, directs attention to the difficulty occasionally encountered in differentiation of some forms of the benign from malignant tumors of the nasal cavity. He cites a case where, upon examination, a large polypoid growth was located in the upper part of the left nasal cavity, presumably springing from the ethmoid. A piece of the tumor was removed, microscopically examined, and pronounced *carcinoma*. Radical and complete removal of the growth, if possible, was urged.

The patient passed to other hands, and a diagnosis of *syphilis* was made. Patient failed to improve under vigorous anti-syphilitic and tonic treatment. The patient then consulted an eminent New York surgeon, who had sections of the tumor made, and it was pronounced a *non-malignant fibroma*. The growth was removed by section below the orbit, resection of the molar and part of the superior maxillary bone, and a complete recovery promised. About three weeks later the tumor reappeared, and the patient died at the expiration of

three months, with probable extension into the cranial cavity. There was headache, paralytic trouble, and great exophthalmia.

Meningo-Encephalitis Consecutive to an Exploration of a Supposed Frontal Sinus.

Dr. Mermod reports the following interesting case: A man of thirty-six years, who had undergone the successive opening of the right maxillary sinus of the left sphenoid sinus of the right anterior and middle ethmoidal cells, on account of a chronic suppuration of these cavities, was affected with a cephalgia of the right frontal region, which diminished after a free evacuation of a clear non-purulent liquid. (*Ann. des Mal. de l'Oreille, du Larynx*, April, 1896.) Under the supposition that it was an affection of the right frontal sinus, a flexible sound was introduced, which penetrated a large cavity resembling an enlarged frontal sinus.

A second exploration, made under the same conditions, to the depth of 6½cm. measured from the entrance of the nostril, was followed by a violent pain in the head, rigors, and unequivocal signs of meningitis. A large trepanation was then made, and it was found that the frontal sinus was entirely wanting, and that its place was occupied by the frontal lobes. A sound introduced from above immediately and without difficulty prenetrated into the nostril.

The patient died twenty-four hours later. The autopsy showed a sero-purulent meningitis, commencing from the anterior part of the frontal lobes; there was no traumatism of the brain. Although the explorations had been made with care and with all necessary antiseptic precautions, they had been the cause of the meningitis. The liquid which ran intermittently from the nose was a cerebro-spinal fluid. This case serves to condemn the opening of the frontal sinus by the method of Schoeffer, that is to say, by means of a trocar pushed from below upward into the nostril. The trepanation from the frontal region is much less dangerous and much more rational, because it makes a wide opening into the affected region. W. S.

Extensive Resection for Osteo-Chondroma.

Dr. A. C. Bernays describes a case of a patient who suffered from an osteo-chondroma, which had grown to such dimensions that it had involved almost the whole face, including the superior maxillæ, the palatal vault, the nose, the malar bones, and all the soft part surrounding these bones. (*Revue Internat. Rhinologie, Otology et Laryngologie*, September, 1896.) It filled the whole buccal cavity; a large portion projected from the mouth. The trachea was opened below the isthmus of the thyroid gland, and the anæsthesia continued

with Trendelenburg's apparatus. The tumor was then removed by an extensive resection, as described in the title. The left antrum was found to be a solid osseous mass, which projected into the nasal cavity, and which had caused a displacement and erosion of the vomer and the nasal septum. The teeth were movable in the aveolus, and their roots were surrounded by a cartilagenouslike structure.

The operation, which was successful, and which gave the patient much relief, caused considerable deformity, which it was intended to attempt to remedy later by a plastic operation. Six months after leaving the hospital a recurrence took place which eventually proved fatal.

The operation was a very extensive and mutilating one, but it was the only resort, as the most ardent supporters of the serum therapy do not believe that any kind of toxin or anti-cancerous serum is capable of penetrating bone or cartilage. W. S.

LARYNGOLOGICAL.

Some New Topical Agents in the Treatment of Tuberculosis of the Larynx.

Dr. S. Solis-Cohen, in presenting a series of cases treated by recent therapeutic products, writes in the *N. Y. Med. Journ.*, Oct. 24th:

"Before adopting the treatment which I am now about to describe, the best results which I have seen, and which I could attribute to treatment, have followed the use of the curette and lactic acid in ulcerative or vegetative cases, conjoined with the use of hydrogen dioxide and iodoform, the latter agents alone being used in infiltrative cases. During the past year I have, however, seen such good results, alike in infiltrative, ulcerative, and vegetative cases, from the use of solutions of formic aldehyde, that I am tempted to believe that we have in this agent a means of treatment superior to any that I have thus far made use of. Formic aldehyde is found in the market in forty-per-cent. solutions, termed formalin, formol, and formaldehyde, the two former being proprietary names. I usually purchase the forty-per-cent. solution and dilute it with water to the strength desired, which ranges from one-half to four per cent. formic aldehyde—that is to say, from one to ten per cent. of the commercial preparations. As the extemporaneous solution of the somewhat oily liquid is difficult, it is well to have at hand phials containing the different strengths.

These lose, however, by evaporation of the very volatile active constituent, and must therefore be of comparatively recent preparation. The percentages which I employ are one, two, four, six, eight, and ten respectively of formalin, formol, or the commercial formaldehyde. Before making the application the parts should be thoroughly cocainized. When the weaker solutions of formic aldehyde are to be used, four per cent. of cocaine makes a sufficient preparation. For the stronger solutions of formic-aldehyde I have usually prepared the patient by using a ten-per-cent., or in some instances even a twenty-per-cent., solution of cocaine. Formaldehyde solutions, even the most diluted, cause an intense burning, stinging, even strangling sensation, when applied to the uncocainized mucous membrane; and even when the weaker solutions of cocaine have been used there is some painful tingling, which, however, soon passes off. I advise any one who intends to use this agent to make preliminary trial of it upon his own tongue and lips, cocainized and uncocainized, so that he may be aware of the nature and duration of the unpleasant sensation caused. As is well known, formaldehyde is one of our most potent antiseptics and germicides, and culture media treated with very dilute solutions of it remain sterile after inoculation with anthrax or tubercle bacilli. It also possesses the property of destroying degenerate tissues, such as superficial epitheliomata, and when applied in sufficient strength to healthy tissues, such as the tip of a rabbit's ear, causes what may be termed aseptic gangrene. The part becomes hard, dies, and is cast off, but at no time does bacterial infection take place. The effect is due to penetration, probably by vapor given off by the solution, and to the formation of certain chemical compounds between the formalin and the tissue cells, similar, doubtless, to the combination with gelatin, by which it causes the latter to harden. This action of the drug in hardening tissue and in preventing putrefaction, as is well known, makes it one of the most useful of reagents in the histologic laboratory. These considerations, and favorable experience with formaldehyde in the treatment of chancroids and chancres, together with the reports of some enthusiastic friends as to its usefulness in diphtheria, induced me to make trial of its properties in laryngeal tuberculosis; and while I have no case of complete recovery to record, I have seen sufficient favorable alteration in pathologic conditions to convince me of the extreme utility of the agent. The method of application has been similar to that employed with lactic acid. To convey the solution to the parts, I use sponge, held in the locked carrier of J. Solis-Cohen, or cotton wrapped upon this carrier or upon a roughened aluminum probe. With this, the parts treated are thoroughly rubbed after

preliminary cleansing and cocainization. Beginning with the weakest solution of formaldehyde, the strength of the application is increased as rapidly as possible by successive increments up to ten per cent. of the commercial preparation, which equals four per cent. of pure formaldehyde. This is the strongest solution I have found it necessary to employ. The indications for increasing the percentage of active drug are the ability of the patient to bear the applications and the absence of inflammatory reaction.

"After applications of formaldehyde, protonuclein has been insufflated; in some cases, I think, with advantage. The applications are made twice weekly. In the intervals the larynx is cleansed with a spray of hydrogen-dioxide solution, followed by insufflation of iodoform or protonuclein, once or twice daily. I purpose making trial of the insufflation of formaldehyde-gelatin, commercially known as Schleich's glutol."

"A few words concerning the other agents mentioned in the title of this communication will suffice. My experience with guaiacol is limited to a very few cases. I have seen ulcerations of the larynx, which, however, I could not assert to be tuberculous, heal under its influence; and in one case, that of a patient who has died from pulmonary tuberculosis, the laryngeal symptoms which occurred during the last weeks of his life, and which were apparently due to tumefaction of the epiglottis confined to one of the lateral halves thereof, disappeared with subsidence of the swelling after two applications of guaiacol. I do not think it was simply acute œdema; it had not that appearance. In applying guaiacol, cocainization is first effected, and the twenty-five-per-cent. solution of the drug, in olive oil, with perhaps the addition of ten per cent. of menthol, is used. Had my attention not been so strongly directed toward the advantages of formaldehyde, I should have pursued the study of guaiacol, as to which the results, as will be perceived, are entirely indeterminate.

"Bromoform has been used by me with considerable satisfaction as a local analgetic in cases of painful ulceration of the larynx, especially in tuberculosis; and in several cases of early lesions the application of this agent, followed by the insufflation of iodoform, has been followed by healing. I make no further contention than this; as I have not considered it worth while to experiment with these drugs in cases of long-standing lesions. I desire, however, to call the attention of the fellows to the fact that formic compounds, as in the case of iodoform, chloroform, bromoform, and now formaldehyde, do seem to have, in greater or less degree, a specific antituberculous influence. Whether this be through action upon the bacilli or through restraining influence

upon the histologic lesion, I am not prepared to affirm. My impression is that the latter guess is nearer to the truth."

Serum Therapy in Diphtheria and Malignant Tumors.

Dr. Damieno expresses himself in favor of the serum therapy in diphtheria. (*Revue Internat. de Rhinologie, Otologie et Laryngologie*, Sept., 1896.) He states, however, that unfortunately his enthusiasm is not the same in the serum therapy for malignant tumors. In two cases in which he has used it he has had failures, although both cases were too far advanced. He hopes, however, that further discoveries, regarding the true cause of these tumors, may lead to the production of a serum whose curative value will be equal to that of the anti-diphtheritic serum. W. S.

"Catarrhal Laryngitis;" Some of the Unusual Manifestations.

Dr. Clarence C. Rice (*N. Y. Med. Jour.*) thus summarizes an interesting paper on this subject:

"First, that there are two ordinary types of catarrhal laryngitis, the one following and dependent upon nasal obstruction, or the condition known as 'hypertrophic rhinitis;' and the other a laryngitis sicca, which is an extension downward of an atrophic rhinitis and a dry pharyngitis; and that in these two processes the same pathological condition exists, from the commencement of the nose to the bronchial tubes.

"Second, that we occasionally see laryngeal disturbances which from their appearance might belong to one of these two ordinary types; but the significant point is that they are present when the nose and pharynx are in excellent condition; or, still again, that the laryngeal disorder, although in kind like that of the nose, is in degree much greater, which is the reverse of the usual condition.

"Third, that there are several disturbances of the larynx, commonly classified under the general term of 'catarrhal laryngitis,' which seem to bear little or no relation to a previously existing nasal or pharyngeal disease; and as they are observed commonly in singers or public speakers, they are undoubtedly caused by an overuse of the voice and an improper method of breathing and tone production, since they are greatly improved by proper instruction in breathing and singing.

"I wish to emphasize the fact that these laryngeal disturbances cannot be much benefited by local medication to the larynx so long as the vocal apparatus is improperly used.

"Fourth, I have mentioned the following varieties of unusul laryngeal disturbance:

"(*a*) A general tissue atrophy of the soft parts of the pharynx and larynx, which produces a disordered relation and a general muscular weakness of the larynx.

"(*b*) The permanently enlarged and usually congested epiglottis, the larynx, as a whole, being nearly normal.

"(*c*) The 'choked voice,' caused by actual enlargement of the ventricular bands (the 'false vocal cords').

"(*d*) A permanent and perhaps congenital vascularity of the vocal bands.

"(*e*) A localized congestion of some portion of the larynx, probably indicating an overuse of some one of the muscular groups—the transverse arytænoids being the most commonly affected.

"(*f*) The condition known as 'singer's nodes,' produced by an incorrect method of using the voice, and cured by breathing and singing in a true physiological manner. And,

"(*g*) We see in singers the many appearances of muscular fatigue which are associated with hoarseness and loss of voice; and frequently we observe strange and strenuous efforts on the part of the larynx to supply extraordinary compensatory muscular action for the loss of the disabled muscles.

"Fifth, these various laryngeal disorders should be recognized by proper names, and their etiology appreciated, and they should not be confused with the ordinary phenomena of a simple catarrhal laryngitis. And

"Sixth, little dependence can be placed upon local medication of the larynx in these difficulties, unless particular attention is being paid to instruction in proper methods of breathing and voice production."

Aphasia in Polyglots.

Recent clinical observation has developed the idea that in polyglots different centers were occupied in the expression of different languages. M. Petres, in a recent number of the *Revue de Medecine*, demonstrates that when aphasia occurs in this class of patients, the last acquired language was always first lost. Another illustration of a similar condition is cited; where a patient has acquired the capacity to speak in one language after he has lost the ability of speaking in another.

Some Rare Cases of Laryngeal Disturbances in Relation to the Sexual Organs.

In a communication before the Italian Society of Laryngology, Otology and Rhinology, Dr. Fasano, after briefly referring to the intimate relation which exists between the sexual organs and the larynx in gen-

eral, states that he has observed in membranous dysmenorrhea, in ovaritis, and in acute metritis and endo-metritis, certain circulatory troubles in the larynx with aphonia of a spastic form and marked congestion of the vocal cords. (*Revue Internat. de Rhinologie, Otologie et Laryngologie*, Sept., 1896.)

These conditions were absolutely independent of all other causes connected with the larynx, and local treatment remained without result. The symptoms in the larynx ceased at the same time as those of the uterus and the ovaries.

Referring then to the pathology of the subject, he admits that many of these phenomena may be interpreted on the principle of reflex action. As a result of these studies and observations, he concludes that hyperemia of the larynx may be a secondary phenomenon among the menstrual anomalies. W. S.

A Case of Foreign Body in the Tongue.

An interesting case of foreign body in the tongue is reported by Dr. A. V. Anderson in the *Australasian Medical Gazette*, Sept. 21st. Patient presented himself for treatment, complaining of a swelling in the tongue, of which he gave the following account: "A month previously he had jumped off the pier at The Bluff, New Zealand, to rescue a man who had fallen into the water, and in doing so his chin came into violent contact with a hawser, by which a steamer was moored to the pier. His tongue was much cut, but he took little notice of the accident in the excitement of the rescue of the drowning man. He left for Melbourne immediately afterwards, and had no time to seek for medical attendance. No medical man was on board the ship which brought him to Melbourne, but the captain gave him gargles for his mouth. He was able to swallow only with much difficulty for several days, because of the swelling of his tongue, and there was still much swelling when he arrived in Melbourne. He did not then get medical advice at once, but went to various chemists, who gave him different washes for his mouth. About ten days before I saw him a discharge appeared from the under surface of the tongue, the wound of which had previously quite healed, and this continued until he came up to the hospital.

"When I saw him the right side of the tongue was enlarged, and a somewhat circumscribed hardness could be made out, extending from about half an inch behind the tip for more than an inch backward. The upper surface of the tongue showed no scar, but on the under surface there was a small cicatrix, and in this a sinus, from which pus exuded. On passing a probe, a hard substance was readily

felt, which I thought at first was a tooth, but an examination of the patient's mouth showed that this could not be the explanation.

"I made a free incision, and removed from the substance of the tongue the amber mouthpiece of a pipe—the foreign body measuring an inch in length, half an inch in width, and rather less than half an inch in thickness. The patient then for the first time since the accident remembered that he had been smoking when he jumped from the pier, and the loss of his pipe, which he had not been able to account for, was satisfactorily explained.

"The wound in the tongue healed up without further trouble.

"Instances of the long retention of foreign bodies in the tongue are not so uncommon as might be supposed. In the *Lancet* of 1846 mention is made of the case of a German soldier who received a bullet wound, passing through the cheek, jaw, tongue, and out of the mouth on the opposite side. The wounds healed in a few weeks, but repeated suppuration occurred in the tongue, and 32 years after the original injury there was extracted from the substance of the tongue a molar tooth.

"Mr. South records in Chelius' System of Surgery the removal of a piece of tobacco pipe from the cheek of a man, after it had been there for ten months. In this case the foreign body entered from the outside.

"In Guy's Hospital Museum there is preserved a piece of tobacco pipe over which the substance of the tongue had closed. In this case repeated hemorrhage occurred, and ultimately caused the death of the patient."—*Gant's Surgery.*

Contribution to the Study of the Falling of Tracheotomy Canulas Into the Respiratory Passages.

Dr. Billot has collected nineteen cases of this kind, published in the last twenty-six years. (*Ann. des Mal. de l'oreille et du larynx*, No. 3, Mars, 1896.) The first indication is to assure the respiration of the patient by means of a large canula introduced into the tracheotomy tube. The attempt should then be made to extract the lost canula by means of appropriate forceps. W. S.

Laryngeal Papilloma in a Child—Repeated Intubation—Death.

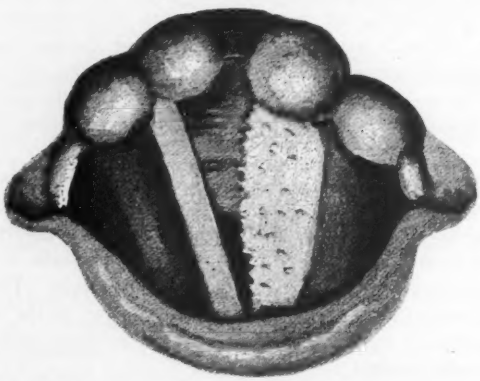
Symptoms of laryngeal stenosis occurred in a child three years of age (F. Lohrsdorfer, Port Huron, Mich., *Med. Record*, Oct. 10, 1896). No satisfactory laryngoscopic view could be obtained. The child could only speak in a whisper. Intubation was practiced, with relief,

whenever suffocative symptoms appeared. After one of the attacks the tube was removed, and immediately symptoms of suffocation set in. Tracheotomy was performed, and the condition improved. An operation was to be performed on the following day for the removal of the laryngeal disease, but the child died suddenly during the night from dyspnœa due to obstruction of the canula. The autopsy revealed a broad-based papilloma, entirely encircling the interior of the larynx at the level of the vocal cords, and completely closing the glottis.

M. D. L.

Unusual Laryngeal Growth.

Dr. J. W. Gleitsman (*N. Y. Med. Jour.*) reports the case of a Russian Jew, æt. thirty-three, of small stature, but well built. Hoarseness set in a year previous; no other complaint; no pain, dyspnœa or loss of flesh. Inspection revealed a large, almost snow-white mass extending horizontally the entire diameter of the larynx, from the anterior commissure to the arytenoid cartilage, on the right side, and appeared to be located between the false and true cord. It looked very much like a bunch of cotton which had been inserted all along the ventricle of Morgagni. The whiteness was homogeneous in its entire length, its surface very little corrugated, its free border slightly irregular.



Twice small pieces of the growth were removed, and then the patient was lost sight of.

Microscopical examination resulted in a diagnosis of "papilloma durum, probably malignum, and possibly carcinomatosum."

Sublingual Ranula with Repeated Recurrences; Transformation Into a Submaxillary Ranula; Multiple Recurrences; Removal of Ranula and of the Submaxillary Gland; Cure.

Dr. Despres (*Gaz. des Hopitaux*, May 7, 1896) reports the following case: A young man, thirty-four years of age, who was suffering from ranula, which had been operated four times by simple incision followed by cauterization, found the tumor invading the submaxillary gland and making its appearance under the angle of the jaw bone. The introduction of a seton, repeated five times, caused the disappearance of the tumor, which reappeared at the end of five months. Dr. Despres then removed the cyst and the submaxillary gland. The operation was quite elaborate; it was necessary to expose the hypoglossus, the mylo-hoideus, the diagastric, and the muscles of the pharynx; to ligate the facial artery, separate the tumor from the trachea and the chords of the vessels of the neck, ligate the veins of the thyroid plexus after these had been penetrated by air; and, after the operation, the patient suffered with a circumscribed erysipelas of the face and aphonia of considerable duration. W. S.

Contribution to the Surgical Treatment of Pharyngeal Tuberculosis.

Dr. Masucci (Naples) states that he does not wish to make a detailed comparison between the different antiseptics for the treatment of laryngeal tuberculosis, nor to give the results, which he has obtained in practice. (*Revue Internat. de Rhin., Otol. et Laryng*, Sept., 1896.) He has long followed the curative methods of Heryng, and is convinced that, in the present state of our therapeutics, it is the only procedure which, associated with antiseptics, can give the most satisfactory results.

He approves of the statements made at the last congress at London by Dr. Lehr, who stated that the method of Heryng was the best which we have, because, by freeing the larynx more rapidly than other methods from ulcerations and tubercular infiltrations, it removes a continual focus of infection of the whole economy. This focus, in fact, produces the tubercular toxines, which may be the cause of the development of tuberculosis in the lower respiratory passages, when these are still exempt.

Dr. Masucci reports his results in eight cases of this kind, three being cases of primative and three of the secondary laryngeal tuberculosis. In the first, the scraping, combined with iodoform, has given good results, and he is able to affirm, after having observed them for a long time, that there has not been a relapse.

In the cases of the second category, he has had only one case of failure, two positive improvements, and two cases in which the improvement was not perceptible on account of the gravity of the process. There is no medical treatment which has thus far given him such results. He therefore insists upon the importance of this curative method, which may give excellent results when undertaken at a sufficiently early stage. The rapidity of the action, as well as the results obtained, is not rivalled by any other method. Curettage does not prevent the use of any other treatment; on the contrary, he insists upon the importance of improving the general nutrition of the patient, both dietetic and climatic. If such results have been obtained in the regions of the North by this method of treating laryngeal tuberculosis, if this were practiced on a large scale in Italy, it would give superior results to those obtained by Heryng in Germany and Russia.

W. S.

Mixed Glandular Tumors of the Velum Palati.

Dr. Berger describes the case of a tumor which occupied the left half of the velum in a 30-year-old woman. (*Bull. med.*, No. 21; *Revue Hebdomedaire de Laryngologie, d' Otologie et de Rhinologie*, Sept., 1896.) The development was slow, indolent, without functional trouble, and without involvement of the glands; the tumor was hard, movable upon the mucous membrane and the neighboring parts, flattened and slightly globular. The author here enters upon a theoretic consideration of the nature of the solid tumors of the velum palati, which he considers as having the same origin (the hypertrophy of the glands and of the periglandular connective tissue).

Dr. Berger believes that the presence of a capsule of fibrous tissue about the pathologic tissue is characteristic of these tumors, which are benign and easy of enucleation, but that we must lose no time in removing them on account of the possible transformation into sarcoma, or epithelioma. Thirteen or fourteen cases of this kind have been published.

The operation was very difficult, and a very abundant venous hemorrhage made it necessary, in the course of the operation, to make repeated tamponnades. A number of times the patient was in danger of hemorrhage and asphyxia. The histologic examination showed it to be a mixed tumor, in which could be found portions of sarcoma, fibroma, myxoma and chondroma, but in which the tubulated epithelioma predominated, as a result of which Dr. Berger is very reserved as regards a recurrence.

W. S.

A New Procedure for Restoring the Loss of Substance in the Velum Palati, Especially of the Antero-Posterior Part.

When the loss of substance of the velum palati is too great or too anterior, and when the lateral parts of the mucous membrane are not large enough to make a flap at least 10mm. in size, the usual plastic procedures are not applicable, and we are compelled to have recourse to prothesis. (Dr. Delorme, in *Gaz. des Hopitaux, Revue Internat. de Rhin., Otol. & Laryng*, July, 1806.) In such cases the professor of Val de Grace removes from the mucous membrance of the cheek a flap of this shape (⊣), with the base adhering posteriorly. The pedicle should correspond with the interdenticular space, and must avoid the canal of Stenon.

The dissected flap is turned at an obtuse angle; the edges are fixed to those of the opening to be closed, care being taken to prevent the cutting of the pedicle by the dental arches, these being maintained apart by a special mechanism made of gutta-percha. The loss of substance, incident to the removal of the flap, is soon covered; the hemorrhage is slight and easy to control. The flap being simply turned and not twisted on its pedicle, and not torn, preserves its vitality. W. S.

Two Cases of Insufficiency of the Velum Palati.

Dr. Egger, in *Ann. des Mal. de l' Oreille, du Larynx*, April, 1896, reports the two following cases:

I. A young man of eighteen years, affected with a double inguinal hernia, and presenting adhesions of the lobules of the ear, had had a nasal voice since infancy, and suffered from short respiration; there was no marked difficulty in deglutition. The velum of the palate did not come in contact with the posterior part of the pharynx during the emission of his "A," and not even during efforts of vomiting; the distance between the uvula and the posterior wall was 15mm.

II. A strumous subject of fifteen years had a nasal voice and chronic coryza. He was affected with the same deformity. He could breathe only through the mouth. The velum palati cannot touch the pharyngeal wall and is besides adherent to the two tonsils.

These two observations confirm the fact described by Dr. Lermoyez under the name of "velo-palatine insufficiency;" it is simply a congenital abnormality due to arrest of development, not of the velum palati, but of the palatine vault; the shortness of the velum is only apparent; the real shortness exists in the bony vault. W. S.

Syphilitic Contraction of the Phaynx; External Pharyngotomy Through the Trans-Hyoidean Region.

Dr. Vallas reports the case of a young man, twenty-two years old, who had contracted syphilis during his childhood, who suffered from dysphagia, emaciation and dyspnœa. (*Soc. des sc. Med. de Lyon*, April 22, 1896). A specific treatment brought about a rapid improvement, but the velum palati was completely adherent to the posterior wall of the pharynx, leaving but a small orifice into the naso-pharyngeal passage. In addition to the contraction, the pillars were attached to the base of the tongue, almost to the epiglottis; the opening from the mouth into the esophagus and the trachea is only 15mm. by 4 to 5mm. in size. Only liquid food could be taken.

The first operative procedure, consisting of internal pharyngotomy and daily dilatations, was followed by an amelioration of but short duration. It was then decided to make a more complete operation by way of the trans-hyoidean passage; tracheotomy and canula tamponage, and an incision of 10cm. near the hyoid bone. The incision was then carried into the pharynx to the cicatricial mass. An especially-constructed apparatus for dilatation was then introduced. The patient can now swallow solid food, and has no difficulty in retaining the dilatator. W. S.

Non-Malignant Tumors of the Tonsil, with Report of a Case (Lymphangioma).

Reference is made (Dr. Herbert D. Hamilton, Montreal) to the clinical significance of recognizing such growths; to the remarkable paucity of symptoms; to the rapid improvement in general health after removal of large tumors; and to the clinical fact that benign tumors in this region are rare, although from an embryological standpoint they should be very common.

Lymphangiomata are not easily found amongst the list of cases on record. This case occurred in a man of 22 years of age, who had been aware of its presence for two weeks before applying for treatment. The tumor had its origin by two pedicles (one wholly vascular) from the upper segment of the right tonsil, and measured 3 inches by $\frac{3}{4}$ of an inch by $\frac{1}{2}$ an inch. The treatment of removal by electric snare was found necessary on account of interference to breathing during sleep. Photographs of the tumor when swallowed and again when protruded upon the tongue, gave a very true idea of the condition.

OTOLOGICAL.

Tardy Hereditary Gout of the Ear.

After a description of the pathology of this affection, and after referring to records of such cases in literature, Dr. D'Aguanno reports three cases which he has observed, and in which the deafness developed as soon as the patient arrived at the age of puberty. (*Revue Internat. de Rhin., Otol. et Laryng.*, Sept., 1896.) These cases did not present any form of hereditary syphilis or any naso-pharyngeal affection; the father had simply been affected with a gouty diathesis for several years. From these observations, he believes himself authorized to say that, among the ordinary forms of hereditary gout of the ear there is a late form which usually manifests itself at the age of 15 to 20 years. W. S.

Acute Otitis Media Caused by the Nasal Douche.

Dr. Burnett reports the history of a case, and points out the errors in the treatment of the patient:

First error: The use of the nasal douche to relieve cold in the head.

Second error: Allowing the ear to ache for one week without performing paracentesis.

Third error: The long-continued syringing, moppings, etc. (*The Phil. Polyclin.; American Medico-Surg. Bull.*, Oct. 10, 1896.)

Acute inflammation of the middle ear being caused by the entrance of the streptococci and other germs into the drum cavity from the naso-pharynx, it is manifest that any form of inflation of the naso-pharynx may force fresh germs from it into the middle ear, or force pathogenic germs already in the drum cavity into the mastoid cells, which would otherwise escape acute infection.

The staphylococcus albus is the acknowledged cause of secondary infection and chronicity in aural suppurations, and is generally present in the external ear. W. S.

Seasickness: Its Cause and Relief.

Physiological experimentation and pathological observation demonstrate that the semi-circular canals exercise a controlling influence over the maintenance of the erect posture and the sense of equilibrium. (James L. Minor, Memphis, *N. Y. Med. Journal*, Oct. 17, 1896). Inquiry has shown that deaf mutes do not suffer from seasickness. Taking into consideration these facts, and knowing that the above functions are frequently disturbed on board ship, the author comes to the conclusion that this complaint is of aural origin. He further

strengthens this belief by the knowledge that deaf mutes can be turned around very rapidly in a circle without suffering from the usual phenomena connected with such a performance, *i. e.*, nausea or dizziness. He believes that their semi-circular canals are not active, or that their sensibility is impaired. The remedy suggested for the relief of this disorder is anæsthetization of the canals by means of cocaine, dropped into the external canal (?). A few drops of an 8-per-cent. solution was employed by the author in a series of cases. He brought on the symptoms by rapidly turning the individual in a circle. Cocaine seemed to lessen the disagreeable symptoms, and its action lasted from four to six hours. He concludes that seasickness is a manifestation of irritation of the semi-circular canals caused by the frequent and varied motions of the ship. M. D. L.

Report of Seven Cases of Malformations of Ear, Accompanied by Complete Closure of the External Canal.

This series of interesting malformations of the ear are reported by Dr. F. P. Hoover, in the *Medical Herald*, Sept., 1896.

Five of the seven cases were congenital malformations. In the majority of these cases the occlusion of the external auditory canal was instrumentally remedied and hearing power restored to more or less extent. The illustrations accompanying the article show definitely to what extent the graceful tissues and form of the external ear can vary.

The Mastoid Antrum a Part of the Middle Ear.

The author (Arthur H. Cheatle, *Archives of Otology*, July, 1896) states that, though this cavity is described as part of the mastoid process, it is nevertheless a definite and regular part of the middle ear, as shown in fœtal life. The mastoid process is not formed until the end of the first year. M. D. L.

A Case of Bezold's Mastoiditis.

Dr. Tissot reports the case of a man of 35 years, who was affected, after an attack of grippe, with a suppurative otitis with perforation of the tympanum and great constitutional disturbances; the mastoid and the sterno-mastoid regions presented an edematous swelling, with redness of the skin, fluctuation, and the appearance of pus in the auditory canal when the diseased region was pressed. (*Dauphine Medic.; Revue Internat. de Rhin., Otol. and Laryng.*, July, 1896). After the classic retro-auricular incision, prolonged as far as the sterno-mastoid, had been made, a denudation of the external face of the apophysis was found, and, on the internal surface, a necrosed

spot through which the sound penetrated into the cells. The patient could not apparently support a more prolongated operation and the trepanation of the apophysis was not made.

The general symptoms became aggravated, and the patient died on the sixth day after the operation. The autopsy showed a diffused meningo-encephalitis and a sub-dural abscess of the temporal fossa.

W. S.

Mastoid Operations.

The first course of the "Lane Medical Lectures" (*Occidental Medical Times*), that will hereafter be an annual event, was inaugurated at Cooper Medical College on Monday, September 14, 1896, by Prof. Wm. Macewen, of the University of Glasgow, who, the last day, trephined the mastoid, at the same time outlining the various steps for the relief of cerebral and cerebellar abscess in connection with mastoid suppuration. The operations were performed in the clinical amphitheater of the College, which was referred to by the distinguished visitor as being admirably suited for its purpose.

These lectures were masterpieces; in language they were clear, concise, logical, and richly laden with the mature fruit of original research. His statement of facts was given with a candor, modesty, and absence of self-parade that won the sincerest respect of all who listened to Prof. Macewen. The lectures were delivered in the spacious auditorium attached to the College.

In preparation for the lectures a number of diagrams in colors descriptive of cases that had been operated upon by the lecturer were placed upon the walls, at the back of the platform, and were used for illustrating points in localization and treatment. A very large number of beautiful sections were also shown by the stereopticon, and duplicates of each section shown were arranged in regular order at the front of the platform, so that they could be referred to after each lecture. These sections were, in the main, prepared by freezing the subject. In this way the exact anatomical lines and relations were preserved. Structures were here demonstrated in outline and position that never appear in the text-books. This was especially well shown in the form of the intradural spaces, both normal and morbid, a most accurate conception of the effects of pathological processes being readily conveyed.

The first lecture was in a sense preparatory to those that followed and was mainly devoted to anatomical details, with allusion to function and localization when bearing directly on the demonstration. One of the first points brought out by the sections shown was the roundness of outline and greater fulness in all directions of the brain

during life as opposed to the results found *post-mortem*. The bearing of this on operative procedure was that brain tissue was encountered rather closer to the periphery than the brain of the dissecting room would convey. The importance of the subdural space when its great extent was considered in relation to acute infectious processes was beautifully shown by the frozen sections.

The second lecture dealt with localization in relation to the special centers that have been definitely isolated. Here the colored diagrams of cases that had been operated upon by the speaker were most valuable. Each case of this character might be regarded as an original experiment. The success of the experiment being shown by the relief of the symptoms following the operation, or by the *post-mortem* examination, with its fuller details. Stereopticon views were also used in this lecture to show sections of tumors *in situ*. A point brought out most prominently here was the effect of operative procedure in cases of acute hydrocephalus. The frozen sections showing plainly that the withdrawal of the fluid must inevitably be followed by collapse of the attenuated brain matter that, in some cases, formed merely a layer between the fluid and the dura. The clinical details of the cases reported in illustration were admirably rendered, giving this portion of the lectures all the interest of a well-told narrative, from which nothing of importance had been omitted. The difficulties in diagnosis were well brought out, and the trouble experienced in unravelling the complex symptoms produced by interdependence of function, both psychical and physical, of adjacent areas, was shown.

In his third lecture Prof. Macewen diverged somewhat from the original programme to speak of the mode of detection of cerebral or cerebellar tumors and their treatment. The symptoms were first reviewed in detail, the local and the general being pointed out, and their dependence next considered. Some that were common to other conditions should always be borne in mind for elimination. The fact never to be forgotten in diagnosis was the remote effect that distension of the brain by a growing intracerebral mass might exert at remote points. The lecturer asserted that it was possible by percussion to determine the presence of any considerable accumulation of fluid in the ventricles, and the method of eliciting this sign was demonstrated. Certain symptoms as those of the eye and of the circulatory system were constant, but others were very variable. The methods of operating for the relief of these conditions were briefly taken up, and the means of dealing with complications, such as hemorrhage, were pointed out.

The fourth lecture, which would properly have been the third in the series, took up the subject of the acute infectious processes. Here

the onset of symptoms and of the gravest results was comparatively rapid, demanding prompt relief. There were two errors that had been very generally held by the profession. The first was that an abscess of the brain was only part of a general pyemic infection, and that therefore its treatment must be regarded as hopeless in the extreme. The other was that the lesion was so infrequent in its occurrence and so erratic in its location that skill in dealing with it, and the practicability of its complete evacuation, were to be rarely attained. He showed, from his own personal experience, that abscess of the brain could not be regarded as such an infrequent occurrence, and that it was certain that many cases were never diagnosed during life, while a fair proportion were not recognized even by *post-mortem* examination. The next point as to the location of this class of lesion was most practical. The lecturer demonstrated conclusively that the vast majority of these cases originated from chronic suppurative processes in the middle ear. This, when accepted, not only opened the way to a ready diagnosis, but also gave a step by step mechanical process by which the lesion could be approached and successfully attacked. Meddlesome treatment in middle ear disease, of a chronic character, and its fatal result, was pointed out, and the necessity of the most radical measures when the danger line was approached was clearly shown.

The fifth lecture was devoted to a resume of the symptoms and indications for operation in cases of abscess and sinus thrombosis. The different methods of operating were also taken up in a more specific manner than on former occasions. One of the first points made by the speaker was that the temperature record was no indication whatever of the mischief that might be going on inside the brain. With sinus thrombosis, on the contrary, the temperature was a very reliable guide. The same rule applied to rigors which were few or absent with abscess, but always present and often frequent in thrombosis. The varying symptoms of the two conditions already mentioned and of meningitis were very fully discussed and contrasted before the lecturer proceeded to the method of operating that he deemed most advisable. The first point in these cases was to reach the mastoid antrum. This was not only a guide in all future steps if further interference were contemplated, but its condition directly implied that of the adjacent parts and the well recognized indications at that point could be availed of by the operator. To open the mastoid he discards the hammer and chisel, which he believes are unsafe, using only a small hand gouge and a burr with the ordinary dental engine to supply the motive power. That these means, though new to operators in this country who follow mainly the German methods,

were all sufficient, the lecturer demonstrated later in the day, when he opened and cleaned out a mastoid antrum in the most approved manner.

Prof. Macewen's armamentarium was not extensive, but it included, beside the hand gouge and burr above mentioned, globular burrs of different sizes. One of these burrs was very large, being three-eighths of an inch in diameter, made to order for him in San Francisco. In addition he used a Younger reamer and a Rollins spiral knife of the make of the S. S. White Co. A point worthy of consideration is that, according to the experience of dental surgeons, after perforating the bone into a cavity, a burr can be made to "bind" (i. e., hold itself to a cutting pressure or bite), if introduced into the cavity and made to cut the cortex from within outward. Thus the mastoid cortex can be rapidly removed if the pneumatic spaces can be easily broken up and a burr used from within the thus-formed cavity from within outward.

F. B. E.

Keloid Tumors of the External Ear.

Dr. Wm. Scheppegrell, in the *N. Y. Med. Jour.*, Oct. 17th, writes: "Among the non-malignant tumors of the auricle, the most common is the keloid, a fibroid neoplasm developed from the cicatricial tissue of the pierced lobule. As the piercing of the ear for rings is a relic of barbarism chiefly restricted to women, we find this form of tumor limited almost exclusively to this sex." Keloids appear most frequently in the negro race, as substantiated by statistics of the author; the cause ascribed being the inherent tendency of this race to the formation of fibroid tumors. From various authors cited, there seems to be a concensus of opinion that the recurrence of keloids is frequent, mainly due to an incomplete removal of the growth or to the formation of cicatricial tissue acting as an irritating factor.

Pain is not an accompaniment of these growths, inconvenience due to size being the principal complaint. Their removal is generally demanded for cosmetic purposes.

The form of operation advocated and accompanied by greatest success is to carefully dissect out the tumor, closing the wound entirely, if necessary by a plastic operation, and thus procuring healing by first intention.

This prevents formation of cicatrices, and gives best assurance of a non-recurrence. Several cases are reported by the author, where the above precautions were observed and no recurrence of the growths has been noted. The cases operated on were dated respectively six months and fourteen months prior to presentation of the paper.

NEW INSTRUMENTS.

A Handy Form of Hot Snare for Tonsillotomy.

Dr. Henry Gradle, in *Jour. Am. Med. Assn.*, Sept. 26th, presents a new galvano-cautery snare for the removal of the tonsils. He favorably compares the advantages of the hot snare with those of the tonsillotome. The instrument devised is stronger in construction than the ordinary snare canulæ. It consists of a handle made of two parallel brass bars, 11 cm. long, mounted in vulcanite blocks. A third block is fitted with lateral rings for sliding along the bars; the wire is attached to two insulated steel stilets; the central vulcanite block fitted to the two brass bars operates the snare. Steel piano-wire is recommended on account of its stiffness. The electric connection is made by conducting-cords attached to the posterior ring.

BOOK REVIEWS.

A Manual of Clinical Diagnosis by Microscopical and Chemical Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M.D., Late Assistant Resident Physician Johns-Hopkins Hospital, Baltimore. In one very handsome octavo volume of 504 pages, with 132 engravings and 10 full-page colored plates. Cloth, $3.50. Lea Brothers & Co., Philadelphia and New York. 1896.

The importance of the microscope and the test tube as an aid to the diagnostician is now established. Every investigator and progressive physician should express his appreciation of this the first complete American volume dealing with this valuable department of clinical diagnosis. This work is a classic in the field it represents, and will be of great assistance in placing the science of clinical chemistry and microscopy in the prominent position which it is soon destined to occupy. The practical experience of the author, aided by unlimited hospital facilities, has given him ample opportunity to verify the many tests and analyses under consideration, and to present his subject matter in a clear and explicit manner. The sections on nasal secretions and the sputum, with very exhaustive descriptions of their examination, are of special interest to laryngologists. Every chapter is up to date, and the directions for examination of the various fluids, excreta, parasites, etc., of the body are accurately and carefully recorded. The work is well arranged, excellently printed and beautifully illustrated.

BOOKS AND PAMPHLETS RECEIVED.

Intrabronchial Medication. By Joseph Muir, M.D. Reprinted from *Am. Medico-Surgical Bulletin*, Jan. 25, 1896.

A Clinical Study of Twenty-one Thousand Cases of Diseases of the Ear, Nose and Throat. By Seth Scott Bishop, M.D. Reprinted from the *Jour. of the Am. Med. Assoc.*, Sept. 26, 1896.

Intubation in the Adult, with Special Reference to Acute Stenosis of the Larynx. By W. E. Casselberry, M.D. Reprint, *N. Y. Med. Jour.*, Sept. 5, 1896.

Electrolysis for the Reduction of Spurs of the Nasal Septum. By W. E. Casselberry, M.D. Reprint, *Jour. of the Am. Med. Assoc.*, Sept. 12, 1896.

Diagnosis and Treatment of Laryngeal Diphtheria. By W. E. Casselberry, M.D. Reprint, *North Am. Practitioner.*

NEWS ITEMS.

Dr. W. Scheppegrell, of New Orleans, has been elected Professor of Diseases of the Nose, Throat and Ear in the National College of Electro-Therapeutics.

The American Laryngological, Rhinological and Otological Society.

The meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society will be held in New Orleans, March 3rd and 4th, 1897. This date has been selected, as it will permit visiting members to see New Orleans during the carnival season, and will enable them to secure half-rate railroad transportation.

The number of physicians who devote their attention to diseases of the ear, nose and throat has increased so much, and the subjects for discussion have become so extensive, that it is difficult in the time devoted to the annual meeting of the society to give the necessary time to many important questions. On this account the four sections of the society have been formed, the object of which is to promote the interest of the specialty during the interval of the annual meetings.

A meeting of a Laryngological, Rhinological and Otological Society in the South is a distinctly new enterprise, and should be encouraged. With the active co-operation of the physicians interested in this work, the carnival meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society will be an assured success.

Candidates for membership should send their names, properly endorsed, to Dr. Robt. C. Myles, Secretary, 46 West 36th St., New York, or to Dr. W. Scheppegrell, Medical Building, New Orleans, so that they may be acted upon by the council of the society.

Third International Congress of the Deaf.

The Third International Congress of the Deaf was held at the University of Geneva, Switzerland, August 19th to 23d, 1896. Delegates were present from all the leading countries of Europe. Among the most prominent representatives were: Messrs. Gaillard, Dusuzeau, Genis and Née, of France; Steinthal and Krieger, of Germany; Micheloni and Guerra, of Italy; Klofverskjold, of Sweden; and Ricca and Secretan, of Switzerland. Papers were read and addresses made on subjects of interest and importance to the deaf, and resolutions were adopted.

CORRECTIONS.

Treatment of Antrum Disease.

In the abstract of Dr. John E. Bacon's article on "Treatment of Antrum Disease," in our October issue, it was omitted to state that Dr. Bacon gave the credit of the operation to Dr. Walter J. Freeman, of Philadelphia, who first described it in an article entitled "Operative Treatment of Purulent Disease of the Antrum of Highmore, with Exhibition of New Instruments," the paper being read in the section on laryngology and otology of the American Medical Association, May 7th to 10th, 1895.

Hay Fever Acid Solution.

In our *October* issue we published the following as Dr. W. F. Strangway's solution:

℞ Acid Acetate ..... ♏ ij.
Sodium chlor ..... grs. iv.
Resorcin ..... grs. ijss.
Aqua ..... ʒ i.
Sig. M. Use as a douche.

This *should* have read as follows:

℞ Acid Acetate ..... ♏ ij.
Sodium chlor ..... grs. iv.
Resorcin ..... grs. j¼.
Aqua ..... ʒ i. M.

—EDITOR.

ANNOUNCEMENT.

After due deliberation, and correspondence with prominent colleagues in every representative medical center, we have started the publication of THE LARYNGOSCOPE—a 64-page monthly journal, devoted to the Diseases of the Nose, Throat and Ear, for General Practitioners and Specialists.

We will endeavor to occupy a middle ground between the general and strictly special journals, and interest that large body of progressive physicians to be found in every town and city who, from time to time, are called upon to treat diseases of the nose, throat and ear.

The presentation of THE LARYNGOSCOPE is an innovation in medical literature, as there is no monthly journal representing these specialties published in America.

Contributions to the Original Department of THE LARYNGOSCOPE will be of such a nature as will appeal to both the general practitioner and specialist.

Our Editorial Staff represents each section of the country, and we will be thus enabled to give our readers the special sentiments and gleanings, society proceedings, and clinical progress from every representative medical center.

A staff of Foreign Editors will, by their correspondence, keep our subscribers posted as to the special advances made in their respective countries in the field which we intend to cover.

In this progressive era of "specialization" in medicine, and the ever-increasing demand thus made on the profession for more accurate and delicate work, the necessity of such a journal as we desire to make THE LARYNGOSCOPE will soon be felt; and we shall endeavor by every means in our power to make it an influential factor in medical journalism, and a worthy champion of the field of work which it represents.

In order to place the journal within the reach of all, the subscription price has been placed at $2.00 per year.

We respectfully request the active support of the medical profession.

THE EDITORS.

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Dr. LEOPOLD LANDAU, of Berlin.
Dr. HERRNHEISER, of Prague.
Professor CASIMIRO MANESSEI. (Pres. of the Italian Section of the International Medical Congress of Paris.)
Dr. G. B. DANTONE, of Rome.
Dr. AUG. RITTER VON REUSS. (Professor of Ophthalmology, Royal and Imperial University, Vienna.)
Professor Dr. SCHŒBE, of Prague.
Professor Dr. U. MOSSO, of Turin.
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